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ENVIRONMENTAL ASSESSMENT BOARD

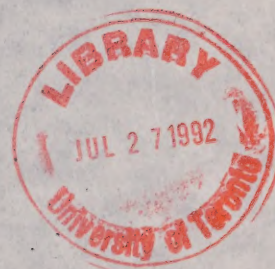
VOLUME: 388

DATE: Tuesday, June 23, 1992

BEFORE:

A. KOVEN Chairman

E. MARTEL Member



FOR HEARING UPDATES CALL (COLLECT CALLS ACCEPTED) (416)963-1249

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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental
Assessment for Timber Management on Crown
Lands in Ontario;

- and -

IN THE MATTER of a Notice by The Honourable
Jim Bradley, Minister of the Environment,
requiring the Environmental Assessment
Board to hold a hearing with respect to a
Class Environmental Assessment (No.
NR-AA-30) of an undertaking by the Ministry
of Natural Resources for the activity of
Timber Management on Crown Lands in
Ontario.


Hearing held at the Civic Square, Council
Chambers, Sudbury, Ontario on Tuesday,
June 23, 1992, commencing at 8:40 a.m.

VOLUME 388

BEFORE:

MRS. ANNE KOVEN
MR. ELIE MARTEL

Chairman
Member



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I N D E X O F P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
<u>JOHN McNICOL,</u> <u>KEN ABRAHAM,</u> <u>RON WAITO,</u> <u>FRANK KENNEDY,</u> <u>BRIAN CALLAGHAN,</u> <u>PAUL WARD,</u> <u>ROBERT STEEDMAN; Resumed.</u>	66789
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I N D E X O F E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
2267	Document entitled Monitoring, Forest Management Unit Level.	66799
2268	Document entitled Reporting and Audits.	66836
2269	Three page document containing excerpt from the five year review from the CP Forest Products Limited FMA, for the Brightsand Forest.	66876
2270 [Reserved]	MNR list and maps, et cetera, as mentioned.	66903
2271	Three-page letter from Mr. Waito to Mr. Benson dated February 3, 1992 and a 7 page letter to Mr. Waito from Mr. Benson dated February 3, 1992.	66904

1 ---Upon commencing at 8:40 a.m.

2 JOHN McNICOL,
3 KEN ABRAHAM,
4 RON WAITO,
5 FRANK KENNEDY,
6 BRIAN CALLAGHAN,
7 PAUL WARD,
8 ROBERT STEEDMAN; Resumed.

9 DIRECT EXAMINATION BY MR. FREIDIN (Cont'd):

10 Q. Dr. Abraham, perhaps you can pick up
11 where you left off last night.

12 DR. ABRAHAM: A. Good morning.

13 The last four overhead transparencies are
14 a brief description of the actual moose description
15 program to date.

16 The first component that I would like to
17 elaborate on to some extent is the habitat analysis
18 research component. It tackles the major tasks related
19 to -- describing the condition of moose habitat, laying
20 the ground work for the analysis of the interaction
21 between moose and habitat features, specifically
22 describing the guidelines and specifically protected.

23 The habitat analysis is what we consider
24 a state of the art habitat research program led by Dr.
25 Robert Rempel, using landscape ecology methods.

The program is at the leading edge of
this technology in the field of habitat analysis,

1 particularly in spatial analysis, and is aided by
2 technology developments of the recent years in terms of
3 geographical information systems and using global
4 conditioning systems to get a high resolution or a high
5 accuracy and resolution in the field.

6 The chief objectives of the habitat
7 analysis program are to measure the variation habitat
8 created by different timber management regimes.

9 Specifically here I mean the application
10 of the guidelines, application of other approaches to
11 habitat management, and doing this in a broad
12 comparative framework, both geographically and in terms
13 of phrasing the questions within the study areas.

14 This is a critical element to the
15 research described in Panel 16, in that it describes
16 the differences and allows us to categorize as in terms
17 of guidelines or non-guidelines, or on the harvested --
18 the areas in which the moose, the individual moose,
19 which we will be studying have lived, and therefore the
20 conditions which influence their characteristics of
21 condition and productivity.

22 The second component is that we are -- to
23 emphasize also, that we are comparing the desertive
24 management regimes to natural disturbance. This is
25 something which has arisen time and again in evidence

1 of, and in discussions in workshops, various workshop
2 processes, for other wildlife and for population
3 monitoring and we have found, as I mentioned earlier,
4 that in approaching this for moose, the best methods
5 allowed us to approach it for all wildlife habitat.

6 The third point that I would like to make
7 is that the techniques being developed here will be
8 applicable across Northern Ontario. In fact, you will
9 be hearing more in Panel 3 about some other initiatives
10 in landscape ecology techniques in modelling, and the
11 program I have with the moose guidelines is
12 co-ordinated with those programs and exchanging
13 information and ideas with those programs.

14 The field of work related to this has
15 been a program of intensive vegetation measurement
16 within the chosen study area, soil examination and the
17 examination of the relationship between satellite
18 imagery and other remote sensing, and the descriptors
19 of habitat and landscape. For example, the forest
20 ecosystem classification or the forest resource
21 inventory, in order to determine the relationships that
22 will be input into habitat models.

23 What I want to leave you with, is that
24 the habitat analysis research program for the moose
25 guidelines is a basic analysis on the effects on the

1 landscape and on the habitat of the application of the
2 guidelines in whole.

3 The next overhead defines how we are
4 going to, or how we are using that information, and to
5 deliver practical management products to integrate the
6 key information necessary to manage moose.

7 The development predictive habitat
8 suitability models, and population models to the field,
9 is one that requires not only construction of the
10 models, but testing and verification of the information
11 used to build the models prior to delivery.

12 This program is jointly being conducted.
13 Dr. Rempel and Dr. Art Rodgers are also involved in
14 this program.

15 The products are intended for delivery in
16 the field for operational management use, but as Dr.
17 Steedman stressed yesterday, and as I would like to
18 emphasize again today, our approach is that this can
19 only be done after an extensive verification and
20 validation of phase.

21 Essentially here I just want to say that
22 we will be -- the place that we explore in detail, the
23 many different relationships, including those which
24 might 'turn out to be unimportant, is in the research
25 phase and not in the operational phase to begin with.

1 They are certainly place later for operational
2 refinement and testing.

3 The kind of information I would indicate
4 in B, that I intend to indicate in point B, is as I
5 alluded to yesterday, is information about local
6 conditions and ranges of variables that are suitable
7 for the local area as opposed to fundamental changes in
8 the relationships used to make the predictions.

9 A couple of things here in terms of what
10 the field work has involved for population modelling.
11 We have done an intensive population survey, probably
12 the most intensive done of a single area in Ontario.
13 We have collected information on harvest mortality in
14 the study area, which is not unique, but it is
15 certainly essential to them for establishing the model
16 parameters.

17 We have done intensive ground collection
18 of the habitat, as I mentioned. We have just
19 initiated, this year, a study on the relationship
20 between black bear and moose mortality in Ontario, and
21 I think that is all I would like to say about this.

22 So then we come to the validation of the
23 model through testing of the predictions, and this is
24 the framework that I mentioned yesterday. This is
25 where the intensive radio telemetry work outlined in

1 detail where -- some detail in Panel 16 comes in.

2 Q. Dr. Abraham, is the work that you are
3 referring to here in this particular slide, work which
4 is done before giving the model to the field for
5 implementation?

6 A. Yes, this is the validation and
7 research -- the monitoring program validation that I
8 was referring to.

9 Q. Thank you.

10 A. A number of timber management habitat
11 animal interactions can be defined, or have been
12 defined, in the process of the ESSA workshops and in
13 the process of developing our detailed research
14 designs.

15 It is these specific interactions for
16 which predictions can be made and for which data are
17 designed to provide an answer.

18 We intend to accomplish this primarily
19 through intensive state-of-the-art radio tracking, and
20 by state-of-the-art, I mean the incorporation of the
21 high resolution global positioning system.

22 We have invested in the development of
23 global positioning systems for animal tracking. We
24 have commissioned a report on automatic tracking of
25 animals, and there is considerable interest in it

1 recently, a consortium with the Canadian Electrical
2 Association and several major utilities was have been
3 joined.

4 We are also pushing what we consider
5 conventional telemetry to its limits of accuracy by the
6 development of some tools that will be specifically
7 available for ground tracking.

8 By large numbers of moose, we are talking
9 here about 60 moose in each of the comparative areas,
10 and to do that would be a very large effort in terms of
11 the staff, in terms of the monitoring intensity, and we
12 have not yet begun that phase. Again, principally
13 because we have put our resources in the limiting of
14 fiscal environment. We have now -- into these other
15 developmental and pre-testing phases.

16 I would like to again reiterate that the
17 causal effect relationships defined here can be applied
18 in other areas. Not simply in a study area for which
19 we are doing the intensive study.

20 Part B refers to some key site specific
21 habitat features, and by these I mean the kinds of
22 things that the guidelines protect; cabin sites,
23 aquatic foraging areas, mineral lakes, with specific
24 relationships between winter cover and availability of
25 peralis.

1 Here, we have initiated this year, some
2 field work on the relationship of moose and wetlands,
3 primarily the aquatic foraging phase.

4 We have done this at a framework which
5 tests the existing system of ranking wetlands for
6 prioritization in the timber management planning
7 process.

8 So in addition to exploring the physical
9 and violent parameters of wetlands which make them
10 attractive or non-attractive to moose for feeding, we
11 are, at the same time, hoping to test and deliver a
12 refined product by the timber management planning
13 process.

14 Similar programs are envisioned --
15 projects are envisioned for the caviting and mineral
16 components of specific habitat features.

17 This is being done -- while it might be
18 preferable to do this with radio tracking and also used
19 to explore the relationships between individual moose
20 and their need for aquatic foraging, this is being done
21 largely labour intensive without radio tracking.

22 The final overhead is about some research
23 in our products. These were detailed in the witness
24 panel, pages 4 to 6, after tab 6, for more detail.

25 The kinds of mineral in products that we

(Reply Evidence)

dr ex (Freidin)

1 are able to deliver so far, have been things like
2 analytical techniques for habitat analysis.

3 Dr. Rempel delivered a paper on
4 preliminary comparative analysis of landscape
5 characteristics at a landscape conference last year.
6 The new technology related to geographical information
7 systems and global positioning systems, of which we
8 were one of the first units in Ontario and in the
9 Ministry to develop that. We have participated in
10 technology transfer workshops about that kind of
11 technology.

12 These are some of the examples of interim
13 products that we have already delivered and the kinds
14 that we would expect to deliver on an ongoing basis
15 throughout the length of the monitoring research
16 program.

17 There are other conventional things, like
18 literature reviews. As I mentioned, telemetry systems,
19 and we also intend to deliver some preliminary habitat
20 suitability index and habitat suitability models for
21 examination by other areas within the Ministry.

22 As you are aware, we can't say exactly
23 when or how those guidelines will be modified. With
24 the information that we are collecting, certainly will
25 be available on an ongoing basis. And as you hear more

1 about it in Panel 3, the modification or habitat
2 management approach will be a gradual evolution and not
3 an abrupt here we are, we have tested the guidelines.

4 To summarize, then, in my opinion we have
5 made good progress within the environment that we have
6 been working up to the last two years. We have
7 developed a lot of good co-operative interactions with
8 our field staff, with other research agencies and with
9 the Ministry as well.

10 Thank you.

11 Q. Dr. Abraham, could you just explain
12 what global positioning is?

13 A. Global positioning system is a method
14 of determining geographical location on the surface of
15 the earth using a system of satellites which broadcast
16 signals. It is based on the differential receipt in
17 terms of time. The receiving the signals from
18 satellites in various positions in the visible sky.

19 So basically the more -- instead of the
20 animal broadcasting the signal, which has to be
21 received by the receiver, either on the ground or in
22 the airplane, the signal is being broadcast by the
23 satellites. The animal is receiving and the unit on
24 the animal or on a truck or whatever, in your hand,
25 that unit is determining the geographical location,

1 location by mathematical equation solving in terms of
2 the position of the satellites relative of your
3 position.

4 Q. Thank you.

5 MR. FREIDIN: Before Mr. Kennedy
6 continues, we have a further set of overheads that
7 should be marked. I think the Exhibit is 2267, Madam
8 Chair.

9 MADAM CHAIR: Yes.

10 MR. FREIDIN: And it is a document
11 entitled Monitoring, Forest Management Unit Level. It
12 is composed 8 pages.

13 ---EXHIBIT NO. 2267: Document entitled Monitoring,
14 Forest Management Unit Level.

15 Q. I think you can begin, Mr. Kennedy.

16 MR. KENNEDY: A. Madam Chair, is that
17 Exhibit marked 2267? Thank you.

18 Madam Chair, the purpose of this portion
19 of the evidence is to make you aware of the fact that
20 monitoring has become an integral part of our normal
21 program at MNR, and that we have described it both in
22 Panel 16 early on in our evidence in-chief, and the
23 purpose is to give you a bit of an update as to where
24 we are and also to describe some of the results of
25 implementation in response to an interrogatory of the

1 various parties.

2 I start out by making you aware that in
3 timber management plans, we are now requiring that the
4 monitoring program be outlined and that each plan
5 explicitly describe a series of items related to that
6 monitoring program for the management and to be
7 conducted during that five year period.

8 First of all, there will be a general
9 description of the area inspection program, which is to
10 be put in place on the management unit, including the
11 specific provisions for monitoring operations in areas
12 of concern. Those provisions are developed as part of
13 the area concern prescription through the process and
14 are highlighted in the monitoring section.

15 We have also allowed for a special
16 monitoring program which will monitor for exceptions if
17 there are exceptions to recommendations contained in
18 the silvicultural guides.

19 This is an item that had come up during
20 our discussions earlier on in the hearing. People were
21 asking, due to silvicultural guides and cover through
22 the situation material, and we have indicated that
23 indeed they may not and that local managers have some
24 flexibility there in their application. But in
25 deciding to do something different than the

1 recommendations in the guides, it was necessary to put
2 in place the monitoring program so that we can keep in
3 touch with those operations so that we are aware if
4 there is any difficulties occurring.

5 In a similar manner we have extended that
6 provision to exceptions to other implementation
7 manuals. We feel it is a worthwhile process to ensure
8 that if people are encountering situations on your
9 local area that are different than that contemplated in
10 the provincial guides or provincial implementation
11 manuals, that we do monitor the situation and report on
12 it.

13 As well, the timber management plan would
14 contain a section that deals with the Free-to-Grow
15 surveys that have occurred out on the areas. This
16 section would deal with the timing, location and the
17 amount of area to be surveyed.

18 In each of the aspects that I have just
19 mentioned in regards to monitoring, the provisions
20 should address the methods to be used for monitoring,
21 be they ground surveys, ground inspections or areal
22 inspections. The time frame for monitoring, we would
23 expect to see some discussion about the frequency of
24 monitoring, comments could be -- we would see
25 monitoring occur every two weeks or perhaps once a

1 month or in some specific situations there may be
2 timing of monitoring such things as stream crossing
3 which would occur during a particular season.

4 We also expect to have individuals to
5 discuss in their plans the reporting requirements, the
6 manner in which they will report if there is any unique
7 situations that require contacting other individuals
8 during the ongoing monitoring program.

9 The way in which we have embodied the
10 monitoring program then, in the balance of our timber
11 management in this respect, is to ensure that the
12 summary of some of the information gets contained in
13 their existing reports, which we will be describing in
14 a few moments.

15 For instance, in the annual report at the
16 management unit level, will be a summary of the
17 Free-To-Grow areas that have been surveyed. As well,
18 the annual report will contain a summary of the area
19 inspections that have been carried out during that
20 year.

21 The report of post forest operations that
22 is prepared for the five year term, and prepared at the
23 beginning of the next planning period and will contain
24 a summary of the area inspection reports as well.

25 In that sense, all the monitoring

1 information contributes to the report of past forest
2 operations and can contribute in a way such as the
3 preparation of recommendations for the next plan or
4 indeed for use in developing prescriptions to deal with
5 similar situations that are encountered the future.

6 Another use of it would be in preparing
7 strategies to deal with particular objectives and
8 strategies in the plan.

9 We have also made note of the fact that
10 the results of monitoring can contribute to revisions
11 of implementation and in Panel No. 3 we will be
12 mentioning that in a little more detail.

13 Turning now to page 3 of Exhibit 2267. I
14 will spend a few moments talking about the area
15 inspection process in more detail.

16 The area inspection program itself was
17 originally described in our Panel 16, and it
18 subsequently came into effect in April of 1990. We did
19 follow the schedule which we had anticipated during the
20 evidence that was led in Panel 16.

21 In our Reply Statement of Evidence for
22 Panel No. 2, Exhibit 2258, after tab 5, we have
23 included the latest copy -- a copy of the latest policy
24 procedure in the area of inspection report forms, and
25 the other parties have had that since the statements

1 have been submitted. I don't intend to go into any
2 details on that today. Just indicate that that is
3 where the reference is.

4 To further our commitment to using the
5 area inspection process, we have committed in a
6 separate term and condition, what types of information
7 were monitored for and how we will use their inspection
8 process to report on those.

9 Our area inspection process then will be
10 monitoring for compliance; for compliance with approved
11 timber management planning, for silvicultural ground
12 rules, they're used in implementing the plan, and for
13 adherence to specific prescriptions for operations of
14 areas of concern.

15 So it is a program with which we will use
16 to ensure that the plan is being implemented according
17 to the way it was planned to be used and approved.

18 We will also be monitoring operations for
19 compliance with acceptable practices, such as those
20 that are outlined in the environmental guideline for
21 access roads and water crossings, as well as other
22 implementation manuals such as code of practice for
23 timber management operation in riparian areas.

24 Through much of our discussions with
25 parties, and our own staff, we realize that there is an

1 opportunity that we could pick up while we have staff
2 in the field, and we have now asked -- we have
3 incorporated into the area inspection process a
4 provision to record any observations that are deemed to
5 be undesirable, and we have used this phrase,
6 undesirable conditions that are observed to encapture
7 that idea.

8 It is to capitalize on the idea that
9 people are on-site, doing inspections, and that they
10 often have an opportunity to see things that are out of
11 the ordinary. We are asking our staff then to record
12 those observations and to bring them back to the
13 office, make individuals that are appropriate in
14 expertise aware of what has been observed, and to
15 ensure they follow actions taken.

16 The area of inspection reports have been
17 constructed in such a fashion that not only does the
18 observer's comments get recorded, but also the
19 follow-up action that is recommended by other
20 individuals that are in the other aspects of
21 management, as well as our local district manager has
22 not yet commented on these inappropriate situations.

23 Q. Mr. Kennedy, does MNR refer to this
24 documentation of undesirable conditions being observed
25 as effects monitoring?

1 A. Not per se. We are looking at this
2 information as being simple recording of observations
3 that are made that appear to be related to timber
4 management activities.

5 Q. Mr. Kennedy, can you comment on why
6 you do not call it effects monitoring?

7 A. Yes. Madam Chair, it has been
8 suggested to us that we should be conducting a
9 different style of monitoring, what I have described to
10 you today is compliance monitoring with the added
11 benefit of individuals recording observations in
12 situations where they have seen something that is
13 unusual. We are suggesting that those individuals pay
14 particular attention if they feel that the condition
15 may be related to timber management activities.

16 However, we recognize that our staff are
17 not trained scientists, they are not able to make in
18 the field determinations as to cause/effect
19 relationships, and we are not asking them to make
20 observations as to observe this condition and it is a
21 result of the following activities.

22 We know our staff are quite qualified
23 to -- in a manner in which to conduct the work that we
24 have been doing, but we do not feel that they are
25 trained in all the scientific nor would have full data

1 in order to draw conclusions of that nature. So we
2 have resisted suggestions from individuals that we
3 should be able to conduct a local effects,
4 effectiveness monitoring program. Instead, we have
5 come back with this as a compromise position, that we
6 ask for individuals to record the observations that
7 they have seen and to bring it to the attention of the
8 appropriate people for further follow-up.

9 MR. MARTEL: Who is going to do your
10 effects monitoring program, per se; only scientists?

11 MR. KENNEDY: Well, Mr. Martel, the other
12 members of this panel have been describing to you the
13 manner in which they will conduct, at the provincial
14 level, effects and effectiveness type monitoring for
15 our provincial guidelines.

16 I believe we have put in place now a
17 series of long-term studies to look at all three of our
18 remaining programs, the provision of moose, fish and
19 tourism, and we feel that that can be augmented in
20 manners such as Dr. Abraham has discussed, with some
21 involvement with local individuals, and it is a manner
22 in which we have chosen to respond to that.

23 DR. ABRAHAM: Could I add something, Mr.
24 Martel?

25 Just by effects monitoring, we will

1 have -- we do have a program of my field staff,
2 district and regional staff, collecting a large amount
3 of information about populations, about habitat. They
4 will be the people who will be collecting for their
5 areas of management responsibility, information about
6 population size, about specific mortality factors in
7 the case of moose, for changing condition of the
8 habitats or cutting or burns or fire and so on. The
9 district and region will be collecting that kind of
10 information. OFAH has referred to that as effects
11 monitoring and if by that you mean who will be
12 collecting that kind of information I think your answer
13 is the field.

14 MR. MARTEL: What is bothering me, I
15 think when we listened to Dr. Ward Thomas, I got the
16 distinct impression that no one was quite sure what
17 effect monitoring really was and how they intended to
18 go about doing it. I think he said there was
19 difficulty even yet, and I harken back to that when Mr.
20 Kennedy says, well, we don't have the scientists in the
21 field to do it. And I recall, I think clearly, what
22 Ward Thomas said, but maybe I am wrong, and then I of
23 course I ask myself the question if the staff, MNR, who
24 are trained foresters can't do some of this and trained
25 biologists -- are we sure what we are doing? Maybe it

1 is not a right question, but I throw it out for what it
2 is worth.

3 DR. ABRAHAM: I would like to take one
4 more stab at that.

5 What I hope to convey in the program, was
6 that there is a lot of interaction and will be a lot of
7 interaction between the field.

8 To hit a couple of highlights, again,
9 field -- our biologists and foresters who have that
10 experience in the field were part of the ESSA workshop
11 process in terms of determining what the needs were,
12 what kinds of things they would require in order to
13 answer questions about the effects of timber management
14 on these various values. That is one way that they are
15 involved.

16 They will be the people collecting
17 information to put into the models and help them make
18 decisions, so the models and decisions support them.
19 There will be the people collecting that kind of
20 information.

21 The distinction I was trying to make, is
22 that research effectiveness -- a research program for
23 effectiveness monitoring and for determining the
24 uncertainties about the actual effects is the
25 appropriate place to determine what the effects are and

1 what the significance of the effects are, not what the
2 - results on the global scale in Ontario have been. We
3 don't intend to do that with the research programs
4 because of their focus on specific geographical areas,
5 specific systems of lakes or specific study areas.

6 So for management purposes, keeping tabs
7 on an ongoing basis of what the status of this resource
8 is in this area, at this time or over this time period,
9 the field will be doing that.

10 I am not sure. Does that help at all?

11 MR. MARTEL: It tells me what you are
12 doing. I guess the confusion in my mind is that we
13 have, over the period of time, we have got different
14 ideas of what -- I mean you already indicated what the
15 Ontario Federation of Anglers and Hunters perceived it
16 to be and I think Dr. Thomas said there were problems.

17 I am just wondering if we are all working
18 from the same definitions as to what effects, effects
19 monitoring and compliance monitoring and so on are.
20 Are we all working with the same game plan in mind? Do
21 we have different interpretations of precisely what
22 that means?

23 MR. KENNEDY: Mr. Martel, I would suggest
24 that we were are working with the same game plan in
25 mind. The compliance monitoring is simply, are you

1 doing what you said you were going to do.

2 Effects monitoring, may be, I observed an
3 effect when I was out in the bush. Effectiveness is
4 you said -- you did what you said you were going to do.
5 Was it effective in doing what you thought you would
6 achieve in taking that action.

7 In the manner in which MNR has approached
8 that topic, we have put in place provincial guidance,
9 directions, through our implementation manual, which
10 you realized are quite extensive and are listed in tab
11 No. 7, I believe, in the terms of conditions.

12 To insure that we have got the right
13 science that we have determined what the effects are of
14 timber management activities to put in place the
15 long-term studies.

16 To determine if our current direction to
17 the field, its embodiment, timber management guideline
18 series, is going to be effective by protecting those
19 values. We have also put in place long-term studies.

20 In the meantime, to ensure that we know
21 that our staff are adhering to the direction contained
22 in those manuals while we are waiting to find out some
23 of the answers for the long-term studies, we put in
24 place a compliance monitoring program.

25 One could suggest that if we are wrong we

1 are going to be consistently wrong and cross-over
2 management units and also conversely, that if in fact
3 we are right, and we believe that we are, with our
4 science that has contributed and experience has
5 contributed to the development of those manuals, that
6 indeed we can't be too far off the mark and what is
7 necessary to keep up with emerging, to test the
8 hypothesis and indeed to revise our guidelines and
9 manuals and our approach for planning at the
10 appropriate time as that science comes on-stream.

11 So I would say that I believe any parties
12 would agree that our interpretation of what compliance
13 effect and effectiveness is the same. The manner in
14 which we may go about developing a program to deliver
15 those programs around those concerns may be different,
16 may be structured different.

17 Both in MNR's organization, the manner in
18 which we have evolved the structure of the field
19 organization we have in place, the way in which we
20 conduct our activities and indeed the timber management
21 planning process, we believe it does fit together as a
22 nice package.

23 MR. FREIDIN: Q. Dr. Abraham, we kick
24 off this discussion about the term and condition where
25 MNR requires the recording of undesirable conditions

1 which are observed.

2 Could you advise whether information
3 collection in the field of such observations is
4 sufficient in and of itself as an effects monitoring
5 program?

6 DR. ABRAHAM: A. I am just trying to
7 phrase that in my head as you were asking the question,
8 and as Mr. Kennedy was speaking.

9 I was going to use that as an example of
10 why -- of what the risk is in not having the kind of
11 program that we have in addition to the information
12 collection program in the field.

13 If, as Mr. Kennedy described it, we have
14 trained foresters, technicians, biologists in the
15 field, they can observe something within the frame of
16 reference of their experience, which may be
17 geographically specific or may be longer or shorter.
18 They can make an observation and they can make an
19 interpretation of what that observation means relative
20 to their frame of reference. If the frame of reference
21 differs from individual to individual, and if the
22 experience differs, then the significance of that
23 observation is vastly different.

24 To use that kind much information and to
25 aggregate it into some way to suggest that this result

1 of this observed undesirable condition was caused by
2 something, is very risky. It is a high risk of failure
3 of identifying the appropriate reason for that.

4 A. I would suggest that that is the kind
5 of thing that we are not happy about having as the sole
6 way of determining what the management -- of what the
7 effects are of our management practices, which is
8 probably closer to what I think OFAH has been
9 suggesting.

10 In addition, we have that program, we
11 have the effectiveness monitoring research program and
12 we have the determination of effects in our research
13 program.

14 I want to emphasize again, that in
15 addition these are things -- these new things that we
16 have added over the course of the last few years, are
17 in addition to a basic program of habitat inventory
18 that is done, of timber resource inventory, of
19 population inventory of some key species, but these
20 things are additive not in place of. So we do have
21 these other mechanisms of collecting information.

22 But in Panel 3 of the afternoon you have
23 got some additional efforts that we are making about
24 population monitoring for more than just the few
25 species that we have traditionally done, and about

1 habitat inventory or land inventory, and those things
2 are also intended to fill up the picture of all of
3 things, all of the ways in which we are examining what
4 is happening and keeping tabs on the conditions,
5 desirable and undesirable, as they occur.

6 MADAM CHAIR: Mr. Kennedy, just a quick
7 question with respect to -- put aside for the moment
8 this discussion about effects and to concentrate on the
9 compliance and inspection aspects of this discussion.

10 Will MNR be looking at compliance within
11 environmental guidelines for timber management
12 planning?

13 MR. KENNEDY: Yes, we will be. We see
14 that as being part of our program once the guidelines
15 are implemented and training has been provided and we
16 would include that as part of our compliance program.

17 MADAM CHAIR: And a second question, the
18 public has -- our interpretation of what the public has
19 said over these many years, is that they want MNR to be
20 in the field, they want MNR to look at a site before a
21 road is built and after a road is built. They want MNR
22 to look at a site before it is logged and after it is
23 logged. They want to have some reassurance that the
24 MNR staff know what is going on in the forest, and do
25 you feel that the compliance monitoring program, as you

1 have it set up through area inspections, will give that
2 sort of satisfaction to the public?

3 MR. KENNEDY: I do believe it will
4 certainly contribute to it. I'm not sure it will be
5 the total answer to the concerns that have been raised,
6 but it will certainly be another manner which we can
7 ensure the public that we have government staff out
8 there working on their behalf, ensuring that the
9 planning efforts that they have contributed to is
10 actually being followed.

11 Our current area inspection process, I
12 believe that an average district is somewhere in area
13 of 200 to 300 inspections conducted per year, is the
14 information we gathered from one of our quick surveys,
15 and that our inspection process now is carried out by
16 our qualified technical staff, mainly, and augmented by
17 other staff actually in the field, and that information
18 is kept on file for approximately one year after the
19 expiry of TMP. The information is summarized annually
20 and contained in the annual reports, and again in the
21 five year state of the forest report. So there will be
22 opportunities for the public to see visible means by
23 which the compliance and operations are being carried
24 out, as well as see the results of those compliances.
25 So I think that will all contribute to the public's

(Reply Evidence)

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1 comfort, if you will, to have staff in field in the
2 operations.

3 MADAM CHAIR: So do I understand it that
4 MNR can say to the public, we will be inspecting every
5 harvest site before and after the operations are
6 conducted?

7 MR. KENNEDY: The area inspection process
8 does not deal with pre-harvest inspections. It is
9 specifically set up to look at during planning
10 implementation.

11 In my own experience it is quite common
12 that while conducting operations to inspections, to
13 look at other areas adjacent to, which may be up for
14 planning on a subject of terms, and as well through the
15 planning process itself, in conducting field
16 inspections for such things as developing
17 prescriptions, has become a common practice. But it is
18 not something that we have put forward under terms and
19 conditions as a mandatory requirement.

20 MADAM CHAIR: Remind me, Mr. Kennedy,
21 because this was a long time ago, with respect to the
22 FMA and various contractual obligations, is a
23 pre-harvest inspection required?

24 MR. KENNEDY: No, it is not.

25 MR. MARTEL: Before we move off this

1 then, we have heard frequently that the prescriptions
2 can change once one knows what the conditions are like
3 and you frequently do not know it until you have gone
4 out and inspected it. What can one then look at the
5 prescriptions maybe a company is doing and say, yes,
6 that is fine and we accept them if the Ministry staff
7 is not aware of what is on the ground until a cut has
8 started or until after it is finished?

9 It sounds like we are guessing as to what
10 might be there because we don't have any time maybe and
11 have staff out there to look at it before the harvest
12 starts.

13 MR. KENNEDY: Well, Mr. Martel, I can
14 assure you that many foresters would love to have the
15 opportunity and resources to look at each hectare prior
16 to determining a prescription for it, to look at it at
17 the time of beginning of operations, to monitor during
18 the operations and then go back and look at it
19 afterwards. It is just simply is impractical to do
20 that.

21 We have to rely upon a sampling of that
22 area, to concentrate our efforts on those areas where
23 we are likely to have the best benefit from
24 inspections, to concentrate on areas where there are
25 other values involved and ensure that we are cognizant

(Reply Evidence)

dr ex (Freidin)

1 of all the factors when we design the prescriptions.

2 As I was indicating, that often takes place in the
3 areas of concern with picks of site.

4 In the case of general areas, if I could
5 use that phrase to describe the balance of the area, we
6 do rely upon the local experience of individuals
7 working in those areas.

8 We have competent staff that are long
9 term residents in the area, participate in the planning
10 process. We will be relying on that, on the local
11 knowledge to that extent.

12 When it comes to changing prescriptions,
13 because we relied on that knowledge and whatever other
14 accumulated information is available in the district
15 office, and in the minds of those who have operated,
16 that information has come to bear in a prescription
17 setting, and often conditions are described in
18 association with the outside of the prescription
19 setting.

20 Those are then recorded in the plan as to
21 what is expected to occur as permissible activities and
22 then that is what the compliance monitoring will
23 follow-up on. So for instance in the case of looking
24 at particular site condition, we are looking at what
25 kind of harvesting operations, what kind of site

1 preparation and renewal option should be exercised on
2 the site. That information will embodied in the
3 silvicultural ground rules of the plan.

4 Subject to inspections then, would be to
5 ensure that those site conditions, as they are observed
6 in the field, match the particular silvicultural ground
7 rules in the plan; that the activities that are
8 occurring are in accordance with those that are
9 outlined in the silvicultural ground rules.

10 So it is in that kind of a -- to use that
11 as an example, in that kind of a situation their
12 inspection process can or will occur in the framework.

13 MR. FREIDIN: Q. And one last question on
14 effects. I take you to the MNR terms and conditions,
15 Mr. Kennedy, Exhibit 2032. If you can turn to appendix
16 8 on page 59, the report, Past Forest Operations.

17 On that page you indicate in the report,
18 Past Forest Operations, in paragraph 1(k) that;

19 There will be a discussion of
20 significant problems and issues arising
21 during implementation of the timber
22 management plan for the previous five
23 year term. This discussion will include
24 a description of any undesirable
25 conditions which have been observed in

1 the areas of operations for the previous
2 five year term related to timber
3 management activities.

4 What is it that is expected that one
5 would do with that kind of information, considering you
6 had a number of observations and it was significant
7 enough to record in the report from task force
8 operations?

9 MR. KENNEDY: A. Thinking we might in
10 having a report of past forest operations is to keep
11 track of what successes people are having in conducting
12 our operations, what kind of desirable conditions might
13 be observed, and on the basis of that experience, to
14 locate and modify in practice if it is deemed safe.

15 At this point of preparing a plan, you
16 not only have the undesirable conditions noted, you
17 also have the benefit of an experienced weather staff
18 involved in the office in determining what may have
19 been the cause of that effect, which has been observed
20 and also the benefit of any follow-up remedial action
21 that may have been taken or any necessary changes
22 recommended by the district manager. All that
23 information would be summarized in the report of past
24 forest operations.

25 It may cause you then to change a

1 strategy in the way in which you are approaching a
2 particular segment of the plan, or it may cause you
3 indeed to set out a different style of prescription to
4 do similar or anticipated conditions in the future, and
5 that's the purpose of having a report of past forest
6 operations.

7 To assist in the preparation of that we
8 are requiring staff now to keep summaries of that
9 information on an annual basis and include that in the
10 annual report. Both the annual report and the five
11 year report are fully available at our information
12 centres and available to the public. So we are trying
13 to get the widest exposure of that information to
14 ensure the public that we are aware as to what is
15 occurring out there in the forest.

16 Madam Chair, as you were asking earlier,
17 I believe that will contribute to the public's comfort
18 level, if I can use that expression, as to -- in fact
19 the operations are being monitored for good practices.

20 Q. Dr. Abraham, if through the reporting
21 of these undesirable observed conditions in the report
22 of past forest operations certain trends became
23 apparent, does that have any relevance to you as a
24 scientist?

25 DR. ABRAHAM: A. Yes, as a scientist

1 that's the kind of information that we would want to
2 examine in detail. It may form the kernel of another
3 examination in detail of a situation.

4 So, to give an example, let's say a
5 recurrence of the kind of erosion or kind of wetland
6 ponding or some things repeatedly observed in a
7 condition and it was frequently enough observed by
8 different people that there was a concern that this was
9 not what was expected, that might form the basis of a
10 specific examination.

11 It also might be the case that the
12 condition that was observed is one that was well-known
13 and expected, but not considered to be significant.

14 In our system of science and technology
15 support units in the field, it may be that the
16 information about that kind of situation exists and
17 that it has been researched somewhere else and the
18 problem is -- or not the problem, but that the
19 situation is that the observations need explanation to
20 the satisfaction of field staff and that the
21 satisfaction of the public that this is something which
22 is expected, but not considered to be significant. It
23 might be a temporary effect or a temporary result of a
24 practice which is, in the long-term of the dynamic
25 situation, not unusual or not significantly harmful.

1 But I guess to answer Mr. Freidin's
2 question briefly, yes, that is the kind of information
3 that we use in formulating a hypotheses of effect and
4 then determining what kind of a program -- what kind of
5 a project might be necessary to determine whether the
6 effect was to test that hypothesis.

7 Q. And if the situations that were
8 observed were not ones which you indicated fell into
9 that category where there was literature or something
10 which indicated what the cause effect relationships
11 were, would this further examination that you indicated
12 might be undertaken be one which would be necessary to
13 determine the actual cause of the observed undesirable
14 conditions?

15 A. I think I understand the question to
16 be, what kind of examination I am talking about?
17 Perhaps you can rephrase it.

18 Q. Would there be situations where the
19 trends which were identified might lead to research to
20 determine what the cause effect relationships were;
21 what caused the effect or the thing that you were
22 observing but you said that is undesirable?

23 A. Yes, that is what I was trying to
24 indicate. That the observation alone, the observation
25 in itself given the trends of observations, doesn't

1 tell us what the cause is. That the purpose of any
2 research program or framework for examining that, is
3 that the observations are a collection of information
4 that says something is happening. There are a couple
5 of things that we need to determine; what is the cause
6 of it and whether it is significant and that is -- so
7 you take those observations, you formulate an
8 appropriate contestables question related to them,
9 related to the potential causes, and then you set up a
10 study or examination of what those causes might be.
11 Try to eliminate those that weren't responsible for the
12 result.

13 MADAM CHAIR: Dr. Abraham, an example
14 that comes to mind of what you are talking about is the
15 submission we heard from the Ontario Metis Aboriginal
16 Association where some of their witnesses felt that
17 there was a problem with moose because they were eating
18 sprayed berries, and some other information we received
19 from the Ministry of Natural Resources had to do with a
20 tick or a different sort of causal agent than herbicide
21 spraying.

22 In that situation, do you think that
23 reporting an undesirable condition would effect MNR
24 staff people reporting that kind of situation that is
25 of public concern but not sort of directly related

1 maybe to compliance monitoring?

2 DR. ABRAHAM: Okay. Both of the
3 examples -- well, one of the examples of the tick may
4 not have anything to do with timber management, but
5 they are observations. We receive observations
6 regularly.

7 In fact this year, for example, in
8 Algonquin Park, it's a year of particularly high
9 observed hair loss. The public are seeing moose with
10 lots of hair loss, they're reporting it. The district
11 and regional staff are reporting that up to us. There
12 are people in our Ministry and elsewhere in
13 universities who examine the relationship between the
14 ticks and hair loss in captive situations and have done
15 precisely that kind of thing, based on that kind of
16 observation and concern.

17 In the case of the herbicide or the
18 spraying, was it, and the potential effects on moose,
19 again, that kind of thing is being observed regularly,
20 or not regularly, is being reported. Those kinds of
21 examples are reported to district offices, to
22 biologists and foresters. The information does come to
23 the research section, and again there is some
24 information on the effects -- the direct effects of
25 toxicity or lack of toxicity of those kinds of things

1 on moose; whether or not it affects the taste or the
2 meat, whether or not the moose or other animals --
3 another example is grouse. You hear often from people
4 in the field that grouse avoid areas that have recently
5 been sprayed. All of those things have been reported.
6 All of those things are examined in relation to what we
7 know from the literature and sometimes the answers we
8 don't know. We don't know what the relationship is.
9 It would be nice to examine those. Often we know
10 something. It is not unlikely to be a major dependent,
11 it may be temporary. So they are being reported, but
12 not necessarily in the framework of the timber
13 management planning process and not through the
14 compliance monitoring program that Mr. Kennedy was
15 discussing.

16 MR. KENNEDY: Madam Chair, the two
17 situations you have described are not the kind of
18 situations that we contemplated that would be reported
19 to the area inspection program.

20 Again, just to summarize, we are looking
21 at observed and desirable conditions that appear to be
22 somehow related to timber management activities.

23 So I think those are two situations that
24 we would ask people to call to our normal open door
25 policy and call district manager and district biologist

1 and discuss. It is not the kind of situations that we
2 have contemplated being recorded in our area inspection
3 process.

4 MADAM CHAIR: I understand what you are
5 saying, Mr. Kennedy. I guess what we have heard from
6 the public, is the public tends to put a lot of
7 importance on timber management planning, and I think
8 they tend to believe that their comments on any aspect
9 of the forest might go through the timber management
10 planning avenue, whether MNR likes that or not.

11 I think you are often going to get the
12 public approaching anything going on in the forest as a
13 timber management planning issue, and I guess the Board
14 just wants some reassurance that when the public
15 approaches you, even if they are knocking at the wrong
16 door, as I am sure this happens in many, many cases,
17 that the MNR staff people are sensitized to saying
18 well, yes, that is a report and that it makes its way
19 through the organization somehow.

20 MR. KENNEDY: Just to conclude that,
21 certainly the suggestions come forward to us at our
22 information centres, and I can speak from experience as
23 well, that it is basically open season on MNR at their
24 information centres. People come forward with all
25 sorts of concerns and issues.

1 We have given instruction, and I believe
2 it is reflected in our terms and conditions in fact,
3 that all comments that come forward by members of the
4 public during the information centres or any other
5 manner in which we hear about them during timber
6 management planning, they are recorded and each one is
7 responded to directly, and other information is
8 contained in terms and conditions.

9 If you would permit me to conclude this
10 portion of the evidence and I would ask for Exhibit
11 2267, page 4 to be put back up.

12 I will just point out to you that the
13 last four points on this page are in fact a summary of
14 conversations we have been having for the last few
15 months.

16 One being that the inspection reports are
17 held at the district level for the full period of the
18 plan as well as for one year afterward, so some of them
19 have been held for up to six years. That information
20 is summarized and contained in the annual report as
21 well as in the report of past forest operations, and
22 that we believe that information will be able to be a
23 useful source of information when we go to revise our
24 implementation manuals, and indeed the key point is to
25 record these undesirable observed conditions for

1 potential follow-up and advise the appropriate people.

2 Turning now to page five, I would like to
3 spend a few moments and look at a summarizing response
4 that we provided to interrogatories.

5 The area inspection process is new as of
6 April 1990, and it has -- one that we have mentioned in
7 our Statement of Evidence, statement number 2, we
8 thought it would be appropriate to give the Board some
9 ideas as to the results of that program and an
10 indication of what is happening in the early
11 development of the program.

12 The program has just started up really,
13 and we are quite pleased with the enthusiasm showed by
14 the staff and the number of reports that are coming in.
15 As I indicated, the average district is between 200 and
16 300 hundred reports.

17 We do think that this program is one that
18 has great potential for us and it is our intention to
19 expand it to produce -- to collect additional
20 inspections, to ensure that we do have compliance with
21 the plan. We think that is a responsible thing to do
22 after the investment of time and effort in the planning
23 process. We do hope to expand and to give the Board
24 some indication of how it is currently going, we
25 conducted a telephone survey, if you will, in four

1 districts; one in each of the northern regions in
2 preparing evidence to include in the reply statement
3 number 2. Contacts from Sioux Lookout, Wawa, Atikokan
4 and Timmins. These particular districts were chosen as
5 a result of MNR staff on our team involved in preparing
6 evidence were personally aware of some individuals
7 there and we expected that we should be able to get a
8 big co-operation, quick turn around time in preparing
9 information for us.

10 We did conduct that survey then and
11 prepared some evidence and permitted it -- showed it in
12 Reply Statement Evidence number 2 on page 16.

13 Information there is actually from 11
14 months worth of data, and it shows 85 per cent
15 compliance, 10 per cent minor non-compliance, and 5 per
16 cent significant non-compliance.

17 That information gave rise to some
18 interrogatories by the Forests for Tomorrow and the
19 Ministry of the Environment.

20 Forests for Tomorrow had asked for
21 further information on the non-compliance aspects and
22 the Ministry of the Environment was looking for further
23 information on the undesirable conditions observed.

24 In order to prepare that information, we
25 went back to those districts with a tabular style

1 questionnaire and asked them to fill in the blanks and
2 that information has since been provided in responses
3 to the interrogatories and is in the package that was
4 filed yesterday, Exhibit 2259 .

5 I don't intend to go through those tables
6 now and spend any time with them, but I thought it
7 might be helpful just to summarize some observations
8 that I have made on the basis of those tables.

9 On the information on non-compliance on
10 Forests for Tomorrow interrogatory number 4, I believe
11 it demonstrates that there is a large number of
12 inspections that have occurred, that there's a range of
13 situations that are encountered and that the reports
14 are recording the comments about the actions taken or
15 simply comments/observations that have been made.

16 There is also varying levels of
17 information reported. Not all of it is dealing with
18 compliance and noncompliance situations.

19 The reports seem to be being used for
20 recording field notes by our staff, and as such there
21 is quite a bit of extra information contained.

22 On the tables that are prepared in
23 response to MOE number 12, the information on
24 undesirable conditions, it does have that there is a
25 number of undesirable conditions being encountered.

1 Some are from environmental concern, some are of a
2 management nature, and some is simply new information
3 that those groups may have known. And again, in those
4 forms there is some miscellaneous information been
5 reported.

6 We were quite pleased actually with the
7 Wynford Case (phoen) and the result that you see in the
8 inspection reports. It does show that staff are making
9 great effort to put the new program in place and it
10 does point out to me that we need to spend some
11 additional time communicating our original intention of
12 the program and to help fine tune some of the comments
13 that are being recorded.

14 On one hand I don't have any difficulty
15 with the condition of field notes being recorded. Some
16 of them are quite interesting. I am concerned with, as
17 the file grows during the six years within which it is
18 kept, that we may have a lot of extra information in
19 there that is not truly necessary and may contribute to
20 an unnecessary burden in compiling that information for
21 the summary reports.

22 The conclusion then, I think I would draw
23 that in fact that the area inspection process reports
24 do show that our inspection program is working, that
25 field observations are being recorded, and that in the

1 case of many situations that the necessary corrective
2 actions are also recorded on that summary form.

3 As I was indicating earlier, that this
4 information will be kept until one year after the
5 timber management plan expiry, and that the information
6 will be recorded in summary form in both the annual
7 report and the report of past forest operations.

8 The information contained in the tables
9 provided in the interrogatories is not in summary form.
10 It is just a simple listing, according to the request
11 made by the parties in the interrogatories, and that
12 concludes that portion.

13 MR. MARTEL: Can I ask you one question,
14 Mr. Kennedy. The summary of area inspection report,
15 that is to be part of the annual report, I am wondering
16 how you are going to aggregate that just so that it
17 makes -- well, you can probably have a tone, if you
18 don't, and how you are going to deal with that
19 terminology which is going to be used right across the
20 area of the undertaking. Can you make some sense out
21 of it?

22 MR. KENNEDY: I share that concern, Mr.
23 Martel. It is an area that we have not put our mind to
24 yet, or given directions to staff as to how they might
25 go about that -- our current emphasis is put on

1 starting the program up and ensuring getting the actual
2 reports collected.

3 But as the numbers grow, as each district
4 is having, as I say, in the neighbourhood of up to 300
5 reports prepared for a year, that there clearly is a
6 need to provide some administrative mechanism to
7 consolidate that information.

8 Some of the discussions that we have had
9 of a preliminary nature have been to summarize the
10 information according to subject areas such as those
11 relevant to some of the guidelines and use those as a
12 framework for presentation of information.

13 So there might be comments such as in the
14 non-compliance area there might be comments that deal
15 with trespasses and reserves or cutting reserve
16 boundaries or dealing with noncompliance with
17 silvicultural ground rules, and getting some indication
18 to the number of instances where that has occurred, be
19 a percentage illustrated numbers and some indication as
20 to what generic follow-up action is taken and also what
21 corrective action would be necessary in a subsequent
22 planning process. It is an area that we have not
23 provided in a direction at this time.

24 MADAM CHAIR: Mr. Freidin, is this a good
25 time for our morning break?

1 MR. FREIDIN: Yes.

2 MADAM CHAIR: We will be back in 20
3 minutes.

4 ---Recess at 9:50 a.m.

5 ---On resuming at 10:20 a.m.

6 MR. FREIDIN: Mr. Kennedy, I think the
7 next, the last section of direct evidence of this panel
8 deals with reporting and audits, and I would like to
9 handout an overhead, Madam Chair, which I understand
10 will be Exhibit 2268. It is 10 pages in length.

11 ---EXHIBIT NO. 2268: Document entitled Reporting
12 and Audits.

13 MR. FREIDIN: Q. You are on, Mr.
14 Kennedy.

15 MR. KENNEDY: A. Madam Chair, this
16 section is to deal with the reports that we have
17 prepared, both for the Board information level as well
18 as provincial reporting, and the second overhead, as
19 part of 2268, describes the annual report for the
20 forest management unit.

21 The details of this one are described in
22 term condition 65, ending in appendix 18 for terms and
23 conditions.

24 The basic requirement, report content,
25 has remained unchanged since we spoke to you last on it

1 and this is the report that is in the current timber
2 management planning manual.

3 We have added to the reporting
4 requirements, and I don't intend to revisit all of the
5 earlier contents; just to highlight these two points.

6 That is, the annual report for the forest
7 management unit will now contain information on primary
8 and secondary roads that have been gated signed or
9 physically or naturally abandoned in the summary of the
10 area inspection reports for the management unit, as I
11 indicated, just a few moments ago.

12 Both these ideas have come forward during
13 our negotiation sessions. There was specific interest
14 in having that information available in the public
15 forum, and one party particularly suggested that we may
16 include those in the annual report and we have.

17 I think that these enhancements will
18 improve our basic reporting requirements and will
19 assist us in tracking the planning implementation and
20 also assist us in keeping records in a summary form for
21 use in preparing the, report of past forest operations.

22 Then, Madam Chair, we retained another
23 report which -- reporting that we do and that is the
24 central reporting of pesticide use and that information
25 has remained virtually unchanged since our earlier

1 terms and conditions and it is highlighted in our Reply
2 Statement Evidence, and I don't intend go into any
3 further details of that here today.

4 At the provincial level we have a set of
5 two reports; an Annual Report on Timber Management
6 which is described in some detail at appendix 20, and a
7 State of the Forest Report, that is prepared every five
8 years and is described in appendix 22.

9 In the Provincial Annual Report on Timber
10 Management, recording only one change we talked about
11 in our reply statement, and that is using of the phrase
12 "recording conditions surveys," which is a broader
13 category than we had in our reports previously and we
14 allowed for more complete reporting. That is the only
15 significant change worthy of note in the Annual Report
16 on Timber Management.

17 In the case of the State of the Forest
18 Report, there are a number of changes which are worthy
19 of note. The first one being is that the report will
20 now report on the estimated change in forest growing
21 stock. I will speak to that further in just a moment.

22 This report will provide a provincial
23 overview of silvicultural effectiveness and will report
24 on wood supply synopsis and projections.

25 We've had a new requirement here to

1 report on an description of typical strategies used to
2 address wood supply concerns. Some suggestions were
3 made that we include comments about the future wood
4 supply in the province, and that this be done every
5 five years as part of this report.

6 We have also indicated that we think a
7 helpful part of this report will be to report on items
8 of interest, and we have indicated examples of that
9 could be summary of advances in science and technology,
10 discussion of provincial level problems and issues and
11 related programs to address them.

12 I think in doing that we will be
13 providing information of interest to the publics in
14 terms of progress reporting, of interesting innovations
15 that occur during that five year period.

16 I notice though, that in the Board's
17 Statement of Issues, there was a concern, or a
18 question, raised about why we had changed the
19 estimated -- sorry, why we had moved the estimated
20 change in forest growing stock requirement from our
21 annual report to the State of the Forest Report. I
22 would like now just to spend a few more minutes on
23 that one.

24 Estimated change in forest growing stock
25 is a preview to describe -- providing information on

1 the changes that have occurred in the forest over a
2 period of time.

3 In order to do that, you need a baseline
4 or a starting point, and for that we are planning to
5 use Forest Resources of Ontario, 1986. A document that
6 was previously made an exhibit.

7 To keep it up-to-date, we need to look at
8 change data, and to this end we look at natural
9 disturbance data, such as fire and the results of
10 timber management activities such as areas that have
11 reached or achieved --

12 We are recording this basic change data
13 now in an annual form and in detail at the management
14 unit level, and we record the recent information as
15 part of the annual reports which were described in
16 appendix 18.

17 On page 5 of Exhibit 2268, I have just
18 listed the items that would be consulted in looking at
19 preparing that change data; area harvested and area
20 naturally depleted, volume harvested, regeneration,
21 areas tended and area treated for protection, and areas
22 declared free-to-grow.

23 From the provincial level reports, The
24 State of the Forest in appendix 20, similar information
25 that contributes to understanding change data is the

1 harvest volumes in the summary of the areas declared
2 free-to-grow, results and condition surveys.

3 We noted that there is a need to
4 communicate this change data, that people are
5 interested in how their forest is growing and how the
6 forest is fluctuating changes, and although we will be
7 advising the public on these changes at the annual
8 level as to what the specifics are, there is more of an
9 interest in knowing what it means across the total
10 provincial forest picture, and for that basis, it is
11 difficult to describe those changes on an annual basis
12 and have some real appreciation for the changes.

13 Basically and simply put, the numbers are
14 so small on the provincial scale that they're very hard
15 to detect in terms of changes to the total growing
16 stock.

17 Rather than showing those on an annual
18 basis, we have moved that requirement to a proposal now
19 to the five year State of the Forest Report and it is
20 our intention to report on the estimated change on that
21 level.

22 By aggregating five years worth of data
23 then, we will be able to show a larger change. We
24 think that will be more easily to portray and more
25 easily understood by individuals.

1 In addition to the actual changes that
2 are occurring in accruals and depletions to the land
3 base it will also be necessary from time to time to
4 report on such things as the forest growth during this
5 period, and that is -- one of our intentions is to
6 pursue that idea for portrayal in this part of the
7 change in growing stock.

8 We do think then, that the portrayal of
9 these larger change information will be able to assist
10 the preliminary understanding on changes that are going
11 on and the trend information that will result from that
12 portrayal of information over time as to the status of
13 the forest resources and material.

14 By way of summary then, in our public
15 reporting at the forest management unit level, during
16 planning we will be reporting on the preparation of
17 timber management plans themselves and we will review
18 the approval process that result through.

19 The annual work schedule of inspections
20 are available for people to come in and have a look at
21 them.

22 During the course of planning we also --
23 during the implementation of planning we also provide
24 reports on prescribed burning and on pesticide
25 applications. All those items occur during the

1 planning stages.

2 When we are reporting on plan
3 implementation then, we report on such things as
4 post-burn reports for prescribed burns, post-operations
5 reports when we are conducting aerial pesticide
6 operations, and the annual report for the forest
7 management unit, and at the five year level we report
8 past forest operations. All those items that you spoke
9 of are occurring at the forest management unit level.

10 At the provincial level, we are preparing
11 the provincial annual report on timber management. You
12 may recall from our earlier evidence that this is the
13 report that is intended to be filed in the legislature
14 and be given wide distribution.

15 In a similar fashion we have prepared a
16 five year State of the Forest Report with the same
17 intention, to have it prepared for use in the
18 legislature as well as for a wider audience.

19 We believe that to that series of
20 reporting we are going to be providing access to key
21 information, that the public has declared an interest
22 in. The specific information will also be of use to
23 forest managers in preparing reports and monitoring
24 their activities and providing information as a general
25 interest to the public.

1 We believe that we have designed our
2 reporting requirements to report relevant information
3 to the appropriate level. Some information at the
4 management unit level, others is more applicable at the
5 provincial level. Some information is more appropriate
6 to report on an annual basis and other information is
7 more appropriate to summarize and present once in a
8 five year sense. So I believe we have struck a happy
9 medium in preparing that information.

10 The kind of subject matters that we are
11 now reporting on has been expanded and the level of
12 details has been more explicitly stated in our terms
13 and conditions as a result of some of the input
14 received through negotiation process.

15 We have also made commitments to report
16 on new developments, to keep people abreast of the kind
17 of information that will be coming out as we implement
18 terms and conditions, and that we intend to report more
19 on just simply the numbers, we make the observation in
20 the past that the Minister of Natural Resources is too
21 often -- that annual reports that are simply a listing
22 of numbers of accomplishments, trees planted, various
23 treated without any discussion of the significance of
24 those numbers.

25 Throughout our reporting requirements we

1 have described additions to that basic information
2 which is needed, but we now intend to include
3 discussions, analyses and interpretations of that
4 information to assist you in using and understanding
5 that information and to get involved in some areas of
6 timber management planning.

7 Simply, we put in place a reporting
8 system, and also we've managed to get it up to the
9 provincial level in reporting appropriate information
10 at individual levels.

11 Turning now to a new subject, which is
12 still in the Exhibit 2268, beginning on page 9, the
13 subject of auditing.

14 MNR has proposed two types of audits; one
15 is the internal operational audits, and the other is an
16 independent operational audits, which would include
17 forest management agreement audits.

18 In our earlier events of Panel 16, you
19 have heard some discussion of our audits and program,
20 and just to highlight some of that information here,
21 the internal operational audit has been expanded from
22 when you heard of it last. We will be using an
23 interdisciplinary team conducting those audits and the
24 team will comment on the status of inventory
25 information.

1 This is a suggestion that has come
2 forward again during negotiations, that we add an
3 additional requirement to our auditing process so that
4 MNR is kept abreast of what information is available
5 for timber management planning.

6 We are also asking our team to comment on
7 plan implementation and to provide us some feedback on
8 how well the planning process has worked and how the
9 plans are being implemented in operations, to augment
10 information we obtain through our compliance program.

11 Independent audits are a subject matter
12 again we discussed in our Panel 16 evidence earlier on,
13 and we believe that it is appropriate to build on the
14 experience that we have had in the forest management
15 unit audits, and we have expanded that idea to a
16 collection of company and Crown course management
17 units.

18 We do intend to conduct some random
19 auditing of those management units. We are not quite
20 sure what the exact number of audits will be that we
21 will conduct on those other units, but they will be in
22 addition to those which we conduct on a forest
23 management agreements which is to audit each one of the
24 agreement areas.

25 When we came up with the local and

1 citizens' committee roles and responsibilities, one of
2 the suggestions that had come forward was to provide an
3 opportunity for the local citizens' committee to meet
4 with independent audit teams and to provide their
5 direct input to the independent audit rather have than
6 the information filter through MNR, and our terms and
7 conditions we've provided for that opportunity.

8 In order to get maximum benefit of the
9 audit results --

10 MADAM CHAIR: Can you remind the Board,
11 the last report we got on audit was by Mr. Duncanson.
12 Was he doing the FMA audit?

13 MR. KENNEDY: Yes, I believe Mr.
14 Duncanson was involved in several of the recent
15 independent audits of forest management units.

16 MADAM CHAIR: Can you remind the Board if
17 any of those included company and Crown management
18 units?

19 MR. KENNEDY: No, they did not.

20 As of this time we have not instituted
21 the independent audits on Crown land management units.
22 Our current program deals only with forest management
23 agreement areas and we are looking for additional
24 funding to implement these terms and conditions and one
25 of the items that we are currently not able to

1 implement are independent audits on Crown and company
2 units.

3 MR. MARTEL: Have you given any thought
4 as to who would make up the independent audit teams?

5 MR. KENNEDY: Well, Mr. Martel, we are
6 currently moved to a system of looking for obtaining
7 auditors through a contractual basis on the open
8 market; looking for bids to come forward from firms and
9 we are looking for people who have experience in timber
10 management operations generally, and those that have
11 experience in performing audited type functions would
12 certainly be desirable candidates. Beyond that we have
13 not identified specific individuals who we consider to
14 be suitable and qualified to conduct audits.

15 That is a matter that we are hoping --
16 sorry, we have recognized that this is an area where
17 there is some potential for growth in providing that
18 service. It is a service that is relatively new to the
19 province, although we have had forest management
20 agreement audits in place since the mid '80s. We are
21 looking at expanding that requirement now to a
22 considerable level which I believe will require
23 additional people in that field and expertise.

24 MR. MARTEL: I hope MNR is sensitive to
25 the fact that the public can be suspicious on occasion

1 and that the people who make up the audit teams must,
2 in fact, not only be independent but appear to be
3 independent. Otherwise the suspicion, and we have seen
4 this in many other studies, in many other fields, in
5 other words, Atlantic Finance and the police looking
6 after police and so on. That somehow we really have to
7 get over that hurdle to gain the confidence and the
8 trust of the public, which is a large portion of this
9 whole exercise, and I hope MNR is taking that into
10 consideration when they devise how they are going to do
11 this auditing.

12 MR. KENNEDY: Mr. Martel, we are aware of
13 that concern. I can advise you that in response to
14 that concern, going the tender route is one way of
15 attempting to get some outside expertise and to obtain
16 auditors at arm's length, if you will, that aren't
17 simply appointed by MNR.

18 I should also point out that we have
19 relied upon the academic community to come forward and
20 participate in our audits on a number of occasions and
21 we have academics involved in the auditing process
22 which have long been removed from MNR. I believe that
23 provides us both a fresh insight in the kind of
24 activities to be audited as well as some true
25 independence, if you will, outside MNR.

1 So we are aware of that concern and
2 certainly take your comments to heart when we look at
3 instituting implementation of this program.

4 In order to get maximum benefit out of
5 the audit results, we do want to share them with as
6 wide a range of people as possible.

7 It is are intention to have the audits
8 displayed -- sorry, to have them available to the
9 public throughout the distribution system, have them
10 listed in our list of publications, but specifically
11 have them available for inspection at information
12 centres that are held through implementation and
13 planning. We do have them included right from stage
14 one, at the first information centre, right through to
15 our planning process.

16 We have also indicated that we will be
17 reporting in our Report of Past Forest Operations, a
18 summary of any audit results that have been prepared
19 that are particular to a forest management unit. We
20 think it is an appropriate way of trying to consolidate
21 that information, again sharing it to a broader range
22 of people. That means that that audit information will
23 be contained right in the timber management plans as an
24 integral part of Report of Past Forest Operations.

25 So we could pick the plan up and see

1 experience from the previous plans implementation, as
2 well as what the changes were in the system plan.

3 We think then that this program that we
4 put in place will allow us to monitor a consistency of
5 application for our process across the management
6 units. It will contribute to our desire to share
7 information and experience between the forest
8 management units, and by buying independent we are able
9 to get a second opinions as to how well we are doing.

10 On internal audits we rely heavily and
11 have relied on heavily traditionally in MNR in the
12 forest program to keep us on track and to share
13 information. But we recognize that going independent
14 provides us with that second opinion which is, as you
15 have indicated, Mr. Martel, very important these days.

16 By having the information pre-available
17 to the public, available information such as recorded
18 in the plan and by having local citizens' committees
19 involved with the independent audits, we believe that
20 this will be -- are all steps that we can use to
21 improve communications with the general public on these
22 matters.

23 MADAM CHAIR: Mr. Kennedy, can you remind
24 the Board what the status is of the work that is going
25 on in inspecting regeneration areas across the north,

1 and I think that is conducted by Professor Harrington.
2 Does MNR consider that to be an audit and can you
3 remind the Board if we are going to hear about that
4 before we are finished?

5 MR. KENNEDY: Yes, it is an independent
6 forest audit. It is an issue that is put together as
7 part of our sustainable forestry initiative, and you
8 are correct in that Mr. Harrington is the leader of
9 that particular group.

10 The audit encountered some difficulty in
11 getting the level of field inspections conducted in the
12 first year of start-up, hence they are slightly behind
13 in their schedule than they had hoped to be at this
14 time, but I am sure they are making good progress and I
15 believe that as of this field season, they have been
16 able to recoup their lost time with additional work.

17 The audit results are intended to come in
18 in the fall of '92, and as such the audit team will be
19 making their report and recommendation to the Minister.

20 It is our intention to briefly mention
21 this audit, independent forest audit, as part of our
22 sustainable forestry program, as part of Panel No. 4,
23 but I don't believe that we will be in a position to be
24 providing you with any more detailed information as to
25 the audit results, in that we expect them they be

1 coming in after the Board has stopped sitting.

2 MR. FREIDIN: That is the evidence
3 in-chief for the witness Reply Statement No. 2.

4 MADAM CHAIR: Thank you very much,
5 gentlemen.

6 Mr. Lindgren, you will be
7 cross-examining?

8 MR. LINDGREN: Yes, Madam Chair.

9 MADAM CHAIR: What was your estimate of
10 the time that you anticipate cross-examining, Mr.
11 Lindgren?

12 MR. LINDGREN: My original estimate was
13 that I would be approximately half a day. I now think
14 I should be able to be completed within two and a half
15 to three hours. Of course, I am counting on the
16 co-operation of the witnesses to meet that objective.

17 MS. GILLESPIE: We are going to be
18 cross-examining on this panel, Madam Chair, but it will
19 be quite brief because most of our silvicultural
20 effectiveness questions will be in Panel 3.

21 We have discussed that with Mr. Freidin,
22 and we are not going to do it twice and they will be
23 reserved for Panel 3.

24 MADAM CHAIR: Then it is likely we will
25 be finished with this witness panel today, Mr. Freidin.

1 MR. LINDGREN: Thank you, Madam Chair,
2 Mr. Martel.

3 CROSS-EXAMINATION BY MR. LINDGREN:

4 Q. If I could, Mr. McNicol, could if I
5 start with you and your analysis of clearcut sizes
6 under the 1991 TMPs.

7 First of all can I ask you, did you
8 personally conduct this review of the clearcut sizes?

9 MR. McNICOL: A. I didn't personally do
10 it. I asked for the individuals that were involved
11 with those TMPs to compile the information and then it
12 was forwarded to me.

13 Q. So is it fair to say that you don't
14 have any direct or first-hand knowledge of the clearcut
15 sizes under the 1991 plans?

16 A. That is not entirely correct. I have
17 been involved with some of the planning teams that have
18 provided information and do have first knowledge of --
19 first-hand knowledge of some of these plans and cuts,
20 clearcuts, within those plans.

21 Q. But for the majority of cuts that are
22 depicted in your evidence, I take it that you don't
23 have any direct or first-hand knowledge of those cuts;
24 is that correct?

25 A. That would be correct.

1 Q. Can you tell me what criteria were
2 used to determine the size of a clearcut under this
3 review?

4 A. The criteria were not as rigorous as
5 the criteria that were set down in the clearcut
6 exercise, our Statement of Evidence, 10B.

7 The criteria that were put forward, that
8 it was to be the exterior boundary of cuts that was
9 used as the demarcation point for the size
10 determination.

11 Irrespective of how much residual, for
12 instance, was left within a cut, and if you remember
13 the clearcut exercise we had different designations for
14 the amount of residual varying all the way from none,
15 i.e., an open clearcut, to very heavy or even uncut.
16 But those criteria were not used. So the exterior
17 boundary of the planned cut-over was to be what
18 demarcated the size that was measured.

19 With respect to contiguity, the guideline
20 there was that if there was a neck down between two
21 adjacent cuts and that neck down was 400 metres or
22 less, then those two adjoining cuts would be considered
23 two, not one.

24 Further, with respect to modifications
25 that may have been made to a cut, with respect, for

1 instance, to application of the moose habitat
2 management guidelines, if a break, for want of a better
3 word, had been engineered into a large open clearcut,
4 and that break was 120 metres in width or more, then
5 those two pieces of that same cut-over could be counted
6 as two and not one.

7 Q. Well, I guess I have a number of
8 questions arising from that information. Firstly, are
9 you telling us that, for the purposes of this exercise,
10 moose corridors exceeding 120 metres in width were
11 determined to be boundaries between cuts?

12 A. That would be correct, yes.

13 Q. And what about road corridors with
14 reserves or rivers or streams with reserves? Were they
15 considered to be boundaries between cuts?

16 A. No. As I indicated, the modification
17 to the cut would have had to have been one that was to
18 deal with a moose habitat concern. So a riparian
19 reserve, for instance, a 30 metre reserve through an
20 open clearcut, would not constitute an adequate break
21 with respect to application moose habitat management
22 guidelines. It would have to be 120 metres or more to
23 allow for a separation of that cut.

24 Q. Well then are you telling me any
25 break exceeding 120 metres in width is considered to be

1 a boundary between cuts?

2 A. That is correct.

3 Q. And were you also indicating that the
4 criteria for contiguous clearcuts from the earlier
5 clearcutting exercise, those criteria were not used in
6 this particular exercise either?

7 A. In as much as those criteria, for
8 instance, ask for size equal to an average annual cut
9 to be interspersed between one cut and another before
10 contiguity was broken, that particular criterion for
11 determining contiguity or discontiguity was not
12 applied, that is correct.

13 Q. You have also indicated in your
14 evidence that you looked at, or had people look at,
15 some 17 plans that were approved in 1991.

16 Can you tell me in total how many plans
17 were approved in 1991?

18 A. Seventeen.

19 Q. If the criteria for contiguous
20 clearcuts from the earlier clearcutting exercise were
21 used, are you in a position to tell me anything about
22 the sizes of the contiguous cuts that have been
23 approved in the 1991 plans?

24 A. We did not ask for an assessment of
25 contiguity with respect to this particular exercise.

1 What we were interested in was the size of individual
2 cuts. So my answer to your question is no, I cannot.

3 Q. And I take it that in the context of
4 this exercise, you did not look at other aspects such
5 as lead times?

6 A. That is correct.

7 Q. Now, I ask you to turn to your
8 summary chart, which is found at tab 2 of the witness
9 statement. Did you prepare this chart, Mr. McNicol?

10 A. I did.

11 Q. Now, I have taken all of the numbers
12 in the right-hand column under the heading, Number of
13 Clearcuts of 260 Hectares or More," and I came up with
14 a total of some 94 cuts. Is that an accurate summary?

15 A. I haven't done that, Mr. Lindgren,
16 but I will take your word for it.

17 Q. And you have also indicated, in terms
18 of the total area in clearcuts of 260 hectares or more,
19 approximately some 55,000 hectares are in those
20 clearcuts; is that correct?

21 A. That is correct.

22 Q. Well, I have taken the 55,000
23 hectares and divided it by the 94 cuts and I came up
24 with an average cut of some 586 hectares. Can you
25 confirm that arithmetic for me?

(Reply Evidence)

cr ex (Lindgren)

1 A. Without my calculator I can't, but in
2 as much as I trust your math, I will suggest that you
3 if divide 55,000 by 99, you would come up with roughly
4 that number, yes.

5 Q. Well, let's round it off to 600
6 hectares. Do you consider that to be a large clearcut?

7 A. I think applying simple math to this
8 particular situation probably is wrong. To imply that
9 each of those cuts is of approximately that size would
10 be wrong. Many are smaller, some are larger.

11 So to answer your question directly, is a
12 600 hectare clearcut large, depends on your
13 perspective, but certainly the average person would
14 take that as a large clearcut, yes.

15 Q. Well, I have tried to determine the
16 average sizes in some of the other units. My
17 arithmetic tells me that in the Gordon Cosens Forest,
18 the average of the 61 cuts that we see there, is some
19 700 hectares. Can you confirm that?

20 A. Again, the math would be 61 cuts into
21 41,000 hectares and again, I will trust your math.

22 Q. And similarly, Terrace Bay, we see an
23 average of some 750 per clearcut. Do you consider that
24 to be a large cut?

25 A. I am sorry, Mr. Lindgren, I didn't

1 get the first part of your comment.

2 Q. Well, I have come up with a similar
3 averaging exercise for the Terrace Bay exercise, and I
4 came up with a figure of some 750 hectares as the
5 average cut size. I am looking at the Blacker (phoen)
6 Forest FMA.

7 A. Yes, in those three cuts that are
8 identified, right.

9 Q. And do you consider a 750 hectare cut
10 to be a large cut?

11 A. I think the average person would
12 consider that is a large cut, yes.

13 Q. Now, you have indicated in your
14 summary, at the bottom of page 2 of tab 2, that some
15 4.5 per cent of 16 plans had clearcuts exceeding 260
16 hectares. I take it you are not in a position today to
17 give me the actual size of the individual cuts that
18 exceeded 260 hectares in those plans?

19 A. I am not.

20 Q. Would it be an onerous undertaking on
21 your part to make the inquiries and telling me in
22 writing what the actual sizes were for each of the cuts
23 that were in excess of 260 hectares?

24 A. Yes, it would be. That would mean
25 going back to each of the individual plans and maps --

1 sorry, pulling out the area of concern charts for 12
2 and identifying individually for the 91 or so cuts that
3 were identified, that is 260 hectares or more, the
4 actual size. And I guess my question would be, does
5 that -- that helps you in some way knowing the
6 individual size of each of the cuts that exceeded 260?
7 Given the context in which this information is
8 presented, then overall you are looking at 14 per cent
9 of the total land base that existed in cuts of that
10 size.

11 Q. Well, you have just indicated to me
12 that you do not think it is a proper approach to look
13 at the average, and you have said some are bigger, some
14 are smaller.

15 My question to you is, okay, tell me how
16 big, tell me how small. We would like to get some
17 sense as to what is the actual size of the actual cuts
18 that have been approved in excess of 260 hectares. Now
19 somebody has gone and counted them, somebody has
20 totalled up the area. I don't think it would be very
21 excessive or unreasonable to ask you to in fact tell us
22 what the actual sizes were.

23 A. Well, I would suggest that we could
24 provide that information if you thought it was useful
25 to you. The usefulness of it is escaping me, but if

1 you think it is useful to you, we can have the authors
2 of those plans go back and make a recording of each of
3 the individual sizes of cuts that exceeded 260
4 hectares.

5 MR. MARTEL: I would like to know, when
6 you are doing that, what you have conveyed to the
7 public as to the need for those size of cuts. I think
8 I expressed a concern that we saw from the public at
9 all the hearings we were at, of their concern, which is
10 different from a scientific concern. They look at it
11 and say it is too big. I don't like it. I'm the owner
12 and I don't like it.

13 The figure 4.5 on its own looks
14 relatively small, except that when you start to measure
15 a number of cuts that size there has got to be some --
16 you hope to get the public on your side. You are going
17 to have to do some real explaining, I would think, to
18 the public, to convince them that that is the right way
19 to go, and when you just look at figures, just from Mr.
20 Kennedy this morning, it doesn't mean much. But when
21 the public sees that it means a lot more to them.

22 I am not sure that their message has got
23 through then. When the latest plans show that some of
24 these could be a thousand hectares, I mean if there is
25 a reason, I think it is imperative that it's got to be

1 conveyed to the public and this doesn't tell us much as
2 to why those were -- went to that extreme, if I can use
3 that.

4 MR. McNICOL: I am sure you remember, Mr.
5 Martel, that what we do require for those cuts that
6 exceed 260 hectares is a rationalization for that size.
7 So that rationalization does exist in the plan, and if
8 a member of the public, for instance, was going hunting
9 and noticed a particularly large cut that wasn't there
10 last year and did have some concern about that, could
11 come back to the district and the rationale for that
12 planed cut could be explained to him.

13 MR. MARTEL: Well, that is right and I
14 was aware of that. My concern is how do you convince
15 the public that clearcuts of that size are beneficial.

16 MR. McNICOL: As we spoke yesterday, I
17 think we recognized that this is a significant
18 challenge.

19 I believe, personally, that one way to
20 deal with that problem is to try to educate the public
21 with respect to natural disturbance patterns in the
22 forest.

23 Many people, I think, forget that cutting
24 is just one other type of disturbance that occurs in
25 that forest. That there are other natural types. That

1 indeed if we are talking about the northern boreal
2 forest, create quite a large disturbance pattern over
3 time, and if people come to understand that that
4 natural disturbance pattern and the size of the cuts
5 that occur there, in the context of natural disturbance
6 patterns is not unduly large, and that the species that
7 have evolved in that forest have evolved with that kind
8 of large scale disturbance pattern, I think there is
9 some hope that we can make them understand that large
10 cuts in and of themselves are not a bad thing.

11 MR. MARTEL: I hear you, Mr. McNicol,
12 except that I hear Forests for Tomorrow, who is one of
13 the parties talking about biodiversity and landscape
14 management, expressing tremendous concern, and I think
15 I indicated to Mr. Lindgren at our last meeting here a
16 couple of weeks ago, I would hope that in their
17 information that they are going present in final
18 argument, they can tell me how their terms and
19 conditions correspond directly to the concern that is
20 before us now.

21 If there is a expressed concern about 750
22 hectares, how does that tie in with terms and
23 conditions which say that if you only cut a hundred
24 when in fact the whole -- as I understand it, deals
25 with natural disturbances which have created the forest

1 that's out there. So I am sitting here trying to
2 figure out who is going where. You know, it like the
3 three stooges about who is on first, and quite frankly
4 I have some difficulty following the arguments back and
5 forth determining who is on first on what issue.

6 MR. McNICOL: To be honest, Mr. Martel,
7 we do have some trouble with Forests for Tomorrow's
8 case in understanding those two concepts.

9 The two concepts do seem to be in
10 opposition to one another, and as you say, perhaps we
11 will have to wait until final argument to see how that
12 seeming inconsistency is reconciled. But we, too, have
13 some trouble understanding how those two approaches
14 match.

15 MR. LINDGREN: Well, I can assure you,
16 Mr. Martel, that this is a subject matter that will be
17 extensively addressed in final argument.

18 I can say this. We see no inconsistency
19 whatsoever between the two approaches. I thought it
20 was fully and adequately explained by the FFT witnesses
21 and indeed our silvicultural guidelines, which call for
22 a general range of sizes subject to exceptions that can
23 be even larger, seems to me to be totally consistent
24 with the approach we heard Mr. Kennedy describe in the
25 U.S. forest service, one that's with exceptions. I

1 don't see any inconsistency there whatsoever.

2 Q. Mr. McNicol, before we move on to
3 the --

4 MR. FREIDIN: Before you move on, in
5 relation to the request for the undertaking, Madam
6 Chair, Mr. McNicol has indicated that it would be
7 onerous task for MNR staff to do what has specifically
8 been requested.

9 The rationale for those clearcuts will be
10 contained in those plans which Mr. Lindgren could have
11 sought to review prior to coming here. But more
12 importantly, having regard to the nature of this
13 evidence and the comment by Mr. McNicol that he has
14 agreed with Mr. Lindgren that clearcuts of 700 hectares
15 approximately to the average person would be a large
16 cut.

17 Now, to have the Ministry go back and get
18 all this information to say well, you know, if it was
19 750 or 900 or 635, it is not going to change the
20 magnitude of the number as to whether it is going to
21 be large in Mr. Lindgren's view.

22 So I do not see that the result of that
23 work is going to be of any assistance to the Board in
24 dealing with the issue that is important to Mr.
25 Lindgren's client, and I would respectfully submit that

1 the Board should rule that the request is unreasonable.

2 MR. LINDGREN: Madam Chair, if I could
3 just respond to that briefly.

4 I think it has been fairly noted on a
5 number of occasions that the issue of clearcut size is
6 a matter of profound importance, not only to FFT, but
7 to individual members of the public who have attended
8 before you.

9 I think the tab 2 summary conceals more
10 information than it displays in the sense that we still
11 don't know how big the actual cuts are under the 1991
12 plans, and for that reason I suggest to you, very
13 respectfully, Madam Chair, that it is important to find
14 out how big are the cuts continuing to be. Are they a
15 thousand, are there 1,500 hectare cuts being approved.
16 We don't know that from this information, and that is
17 why I would think it would be important for the Board
18 and the parties to get that information as
19 expeditiously as possible.

20 MADAM CHAIR: Mr. Lindgren, you are going
21 to have to be a little more precise about what you want
22 and then try to persuade us why we need to know any
23 more than the point you have made, and the point you
24 are making to the Board, is that the average size of
25 the 14 per cent of clearcuts exceeding 260 hectares is

1 in the order of 500 to 600 hectares or larger. That is
2 the point you are making. And what further information
3 with respect to that 14 per cent or 94 clearcuts over
4 260 hectares would you want to make?

5 MR. LINDGREN: Well, the point is simply
6 this, Madam Chair. Determining what the average size
7 is helpful, but it is not enough. It does not tell us
8 how big the actual cuts are and in the average it could
9 be disguising the fact that there still are a thousand
10 hectare plus clearcuts being approved routinely. Well,
11 not routinely, but still being approved in this
12 province, and I think that would be information the
13 Board would like to know.

14 MADAM CHAIR: Mr. McNicol, do you have
15 any -- are you telling Board that you do not have of
16 these -- I believe Mr. Lindgren is in interested in the
17 94 clearcuts exceeding 260 hectares. Do you have any
18 itemization of the size of those clearcuts?

19 MR. McNICOL: I do not.

20 MADAM CHAIR: Mr. Lindgren, one further
21 question before we rule on this.

22 Is the Board to understand that Forests
23 for Tomorrow's position is that there can be exceptions
24 to clearcut in size and in fact Forests for Tomorrow
25 can envision situations where clearcut could be very

1 large?

2 MR. LINDGREN: The short answer is yes.

3 MADAM CHAIR: Okay. If that is your
4 position, then what more do you need to know other than
5 there are exceptions to the 260 hectare limit that
6 would fall into that situation?

7 MR. LINDGREN: Well, without getting into
8 final argument, Madam Chair, I heard some evidence from
9 the MNR in a previous panel to the effect that, and
10 other witnesses in the hearing, to the effect that they
11 do not like the approach taken by the FFT in the sense
12 that we have suggested limits with exceptions. They
13 would rather have guidelines so that you do not have to
14 do, you know, any extensive or detailed exception
15 reporting. They seem to suggest that that is putting
16 the cart before the horse. You should be able to do it
17 more routinely than that. So that is one point.

18 The other point is, even under the FFT
19 regime of limits with exceptions, I am not at all clear
20 that we are still going to be seeing a thousand hectare
21 or 1,500 hectare cuts, as we might be seeing now.

22 MADAM CHAIR: So your position then, Mr.
23 Lindgren, is that Forests for Tomorrow would be opposed
24 to clearcuts larger than 260 hectares?

25 MR. LINDGREN: No, Madam Chair. The FFT

1 terms and conditions have very clearly indicated that
2 where there is an ecological or biological
3 justification for a cut larger than the sizes
4 prescribed in our guidelines, then that can be done;
5 whether that is 260, 280, 300 hectares. Very clearly,
6 we could envision some large cuts being undertaken
7 within the Province of Ontario.

8 THE COURT: So, Mr. Lindgren, what you
9 want then, is you do not want just a listing of the 94
10 clearcuts and their estimated size, you want to see as
11 well the rationalization for those exceptions?

12 MR. LINDGREN: Yes, Madam Chair.

13 MR. MARTEL: Mr. Lindgren, I am trying to
14 get a handle on your conditions. Until we know then
15 what the size of the catastrophes are in Ontario that
16 have created the boreal forest as they exist today, how
17 are we going to interpret Forests for Tomorrow's terms
18 and conditions? Because until we know and have mapped
19 out all of the catastrophes that have occurred, whether
20 it is by fire or by infestation or whatever's created
21 those areas, how are we to interpret the Ts & Cs until
22 all of that is mapped?

23 And that is what I am trying to get
24 straight in my head as I ask these questions of Forests
25 for Tomorrow, to get a handle on how we are going to

1 interpret it so that -- apply it, until you have got
2 all that in place.

3 MR. LINDGREN: Well again, without
4 getting into final argument, Mr. Martel, I think I can
5 tell you this. The silvicultural guidelines and the
6 exceptions were drafted by foresters and they were to
7 be implemented and used by foresters, and I think it is
8 also fair to say that we don't have full and adequate
9 knowledge of what the natural disturbance pattern looks
10 like. I don't think the MNR has it, we don't have it.

11 Notwithstanding that, I think we do have
12 some information that would lead us in certain
13 circumstances to authorize a larger cut, and the
14 example that MNR uses from time to time is the
15 woodlands caribou. We do know that the caribou does
16 need some larger areas and that may mean larger cuts;
17 cuts larger than 260 hectares.

18 I can see foresters today and biologists
19 developing that very prescription based on that
20 knowledge.

21 MADAM CHAIR: The Board will rule on this
22 after lunch, Mr. Lindgren, and we would like you to
23 talk to Mr. Freidin, and if you can come up with an
24 agreement over lunch, fine. If not, we will rule on it
25 immediately after lunch.

1 MR. LINDGREN: Thank you, Madam Chair.

2 Q. Mr. McNicol, continuing with you. We
3 have heard the MNR claim, from time to time, that
4 applying the moose habitat guidelines benefits some 70
5 per cent of the terrestrial vertebrates in the area of
6 the undertaking.

7 Can you tell me precisely how these 70
8 per cent are benefited when you are not applying the
9 moose guidelines as rigorously as they should be,
10 namely when you are exceeding the 260 hectare suggested
11 area.

12 MR. McNICOL: A. The areas where we look
13 to apply the moose habitat management guidelines
14 rigorously are those areas we classified it as having
15 moderate to high capability, to optimize moose
16 densities.

17 As a generalization, those are areas that
18 in land form and thus vegetation type, there is
19 diversity. So that relief in the topography has
20 created different growing conditions for different
21 forest types. That has created diversity in
22 vegetational types and is also created, because of the
23 juxtaposition of these vegetational types, a lot of
24 edge.

25 Those kind of conditions benefit a wide

1 range of wildlife species, not just moose. But it is
2 in those areas where we do apply the guidelines with
3 rigor.

4 In areas of low capability, and these
5 areas are characterized by a lack of relief as a
6 generalization, and also monoculture type situations,
7 there is not those inherent diversity factors of land
8 form and vegetation that would support a diverse suite
9 of species.

10 So what I am saying is, in those areas
11 where we do not apply the guidelines rigorously, there
12 is not as diverse a suite of species in those forests
13 as in forests where guidelines are applied rigorously,
14 and the species that benefit, generally, from a
15 rigorous application of the guidelines, do not, as a
16 generalization, exist in those types of forests to the
17 same degree as they do in those areas of moderate to
18 high capability.

19 So what I am suggesting is, they will
20 disbenefit, if you will, in the same manner as moose
21 will with a less rigorous application of the guideline.

22 Q. So if I understand you correctly, if
23 any of the 70 per cent of the species are in areas with
24 low moose capability, they will disbenefit from a less
25 rigorous application of the moose guidelines?

1 A. The disbenefit that I am referring to
2 is the fact that numbers will not be optimized in those
3 situations, because the conditions, the parameters, do
4 not exist for them to be optimal, both for moose and
5 for those suite of species that occupy the same types
6 of habitats as moose do in those areas of moderate to
7 high capability.

8 Q. Well, on page 4 of your evidence you
9 refer to the one plan that had more cuts greater than
10 260 hectares. You indicated that that unit had some
11 areas of highly uniform black spruce forests having low
12 capability to support moose.

13 Mr. McNicol, do you know the full range
14 or suite of species and flora and fauna that happen to
15 occupy the uniform black spruce forest?

16 A. I do not.

17 Q. And I take it that the MNR does not
18 see any problem with applying the moose habitat
19 guidelines less rigorously in those situations, even
20 where there may be a number of other species present in
21 the uniform black spruce forest?

22 A. Again, I would go back to the way
23 that those forests were created in nature. Those low
24 capability areas, and here I am talking about fairly
25 wet sites and also very dry sites. As a generalization

1 those are the types of sites where you have low
2 capability, lack of relief and topography and they are
3 very dry or they are relatively wet sites.

4 The monocultures that grow on those sites
5 are the result of large scale disturbances in the past.
6 The disturbances were large, therefore you have a large
7 even aged, in many cases, monoculture that has been
8 created.

9 Relaxing the guidelines means that you
10 are creating larger openings in that monoculture.
11 That's the type of patch size or opening that is more
12 common in that forest type than in the type of forest
13 that is of moderate or high capability, which is again,
14 the more diverse forest, where you have different
15 forest stands as a result of your relief on those
16 sites.

17 Q. Are you telling me, Mr. McNicol, that
18 clearcutting equals fire in every respect?

19 A. No, I certainly am not. What I am
20 saying, that in the context of opening sizes in the
21 canopy, the type of disturbance pattern, and I'm not
22 talking about clearcutting, mimicking fire to any
23 extent. What I am suggesting is, that the way that
24 forest canopy is disturbed, the opening sizes in that
25 forest canopy tend to be large rather than small.

1 Q. Now, yesterday I provided to your
2 counsel an excerpt from the 1985 to 1990 FMA reviews.
3 Do you have a copy of that excerpt.

4 A. I do.

5 MR. LINDGREN: Now, Madam Chair, I would
6 like to file that as the next exhibit.

7 MADAM CHAIR: That will be Exhibit 2269.

8 MS. BLASTORAH: Is that 2269, Madam
9 Chair?

10 MADAM CHAIR: Yes.

11 Mr. Lindgren could you identify this
12 exhibit, which is determined by 2269?

13 MR. LINDGREN: This is a three page
14 document which contains an excerpt from the five year
15 review from the CP Forest Products Limited FMA for the
16 Brightsand Forest, and I have reproduced page 181 from
17 that document.

18 ---EXHIBIT NO. 2269: Three-page document containing
19 excerpt from the five year review from
20 the CP Forest Products Limited FMA, for
the Brightsand Forest.

21 MR. LINDGREN: Q. Mr. McNicol have you
22 had an opportunity to read page 181?

23 MR. McNICOL: A. I have.

24 Q. At the top of the page, several lines
25 down we see an indication that:

1 In the northern section of the
2 Brightsand Forest, the moose guidelines
3 have been applied less rigorously.
4 Clearcut sizes in two areas examined
5 during the field investigation exceeded
6 present guidelines. The justifications
7 for this move in the plan included the
8 observations that these areas were
9 largely monocultures supporting few moose
10 at the present time and with such poor
11 soils that they would be unlikely to
12 support high densities in the future.
13 This may be a reasonable interpretation
14 of the guidelines for this area, but does
15 not address the Ministry claim that
16 providing for moose habitat also provides
17 for other forest wildlife. The committee
18 would not like to see this practice
19 become general.

20 Now, we just heard from Mr. Kennedy, that
21 these FMA audit teams are presumed to have independent
22 expertise and they provide an important second opinion.

23 Can you tell me if you are disagreeing
24 with the audit team's concern about applying the moose
25 guidelines less rigorously?

1 A. Indeed I am. As a member of the
2 planning team that devised the Brightsands timber
3 management plan, we were aware that -- or we were
4 suspicious of the fact that there may be important
5 caribou habitat in the northern section of this plan
6 that this particular piece is speaking to, in the
7 Sessegana Lake area.

8 We built into the plan the provision that
9 because we did not have the information at that point
10 in time, that if surveys, which were planned in the
11 years of plan implementation, during those years, if it
12 was determined that indeed important woodland caribou
13 habitat did exist in this particular portion of the
14 approved plan, that the plan would be amended to
15 recognize that fact and that the plan would be adjusted
16 to deal with woodland caribou. In the original plan we
17 applied the guidelines less rigorously with respect to
18 moose because that is a low capability area for moose.

19 The fact that in our subsequent surveys
20 did determine that it was important woodland caribou
21 habitat, just corroborates that fact.

22 The woodland caribou habitat is very
23 different than moose habitat and our surveys confirmed
24 that woodland caribou did exist there, that it was
25 important habitat, and an amendment is underway for

1 that plan to recognize the fact.

2 Q. Well, it is a very interesting
3 answer, Mr. McNicol, but the question was, I take it
4 you disagree with the committee's view or statement to
5 the effect that they do not want to see the practice of
6 applying the moose habitat guidelines less rigorously
7 become a general practice. Do you disagree with that
8 statement?

9 A. Well, I think our evidence has within
10 been clear with respect to when that occurs and that
11 occurs in areas where there is low moose production
12 capability. And if you are suggesting to me that we
13 should re-examine that particular approach to the
14 application of flexible guidelines, I would suggest,
15 yes, I disagree.

16 Q. Okay. Thank you, Mr. McNicol.

17 Mr. Ward, perhaps we can turn briefly to
18 your evidence. I ask you to turn to page 6 of your
19 witness statement, please.

20 Now, Mr. Ward, you seem to take
21 particular offence at some comments made by Dr.
22 Suffling in his evidence. Did you review Dr.
23 Suffling's evidence in its entirety?

24 MS. BLASTORAH: Mr. Lindgren, may I
25 clarify, did you mean page 6 of tab 3 or page 6 of the

1 main part of the witness statement.

2 MR. LINDGREN: Page 6 of the main witness
3 statement.

4 MS. BLASTORAH: Thank you. I am sorry to
5 interrupt.

6 MR. WARD: Sorry, Mr. Lindgren, I was
7 flipping pages here. Can you repeat the question?

8 MR. LINDGREN: Q. The question was
9 simply this. You seemed awfully critical of some
10 comments made by Dr. Suffling. I am wondering if you
11 read his evidence in its entirety.

12 MR. WARD: A. I read both Dr. Suffling's
13 witness statement and I read his oral transcript from
14 start to finish several times.

15 Q. If that is case then, you will know
16 that Dr. Suffling's central point was that the MNR
17 needs to be practicing landscape management techniques
18 in order to protect and conserve biodiversity.

19 Now, are you here today to agree or
20 disagree with that assessment?

21 A. My role was primarily to deal with
22 some of Dr. Suffling's discussions regarding size of
23 fire disturbance in relation to the size of harvest
24 disturbance from a spatial perspective. That's the
25 area that I was primarily looking at.

1 Q. So when Dr. Suffling says the MNR
2 should be practicing landscape management, you are not
3 here to dispute that?

4 A. No, that's not my role.

5 Q. And similarly, when Dr. Suffling says
6 that in his opinion the tools necessary for landscape
7 management are largely available today and could and
8 should be used, I take it you are not here to dispute
9 that statement either?

10 A. No, I have no particular expertise to
11 judge whether that's true or not true.

12 Q. Okay. Can I ask you to look at
13 paragraph number 2, towards the bottom of the page on
14 page 6, and you conclude there, that at the provincial
15 level the area burned and the area cut doesn't exceed
16 what was burned historically.

17 I would like to take you to a different
18 scale, not the provincial scale but the local scale,
19 and ask you a few questions about the fire regime.

20 First of all, can we agree that the
21 natural fire regime is quite variable at the local
22 level in the sense that, for example, fire doesn't burn
23 stands that are a particular commercial rotation age?

24 A. Could you rephrase that? I thought
25 we were going in one direction and at the end you threw

1 me curve.

2 Q. I will throw you a fast ball, if I
3 can, maybe a lob ball.

4 Can we agree that when fire burns it does
5 not burn in stands that are 60 to 80 years old, it can
6 happen in any stand regardless of age?

7 A. That is right. Fire is relatively
8 indiscriminate in terms of the selection of stands for
9 burning.

10 Q. And some stands may be burned more
11 frequently than others; is that correct?

12 A. That is true.

13 Q. And some stands may not be burned for
14 a long time and may be untouched for relatively long
15 periods of time; is that correct?

16 A. That is correct. At the individual
17 stand level.

18 Q. And so fire doesn't operate
19 sequentially in the sense that it burns a certain area
20 and next year comes back and burns the area adjoining,
21 then comes back the next year and burns the adjoining
22 area. Fire doesn't do that, does it?

23 A. Generally, no.

24 Q. And again, to shorten this part of
25 the cross-examination, I think we can agree that fire

1 does not plant or scarify or attend or spray; correct?

2 A. No, fire does not. Not in the sense
3 that we think about.

4 Q. And yet, as I think you have
5 indicated in your evidence, we do get good and healthy
6 regeneration following a fire; correct?

7 A. In general. Not in all cases.
8 Depending on the age of the stand and the particular
9 conditions in which the fire occurs, but more often
10 than not, given the current state of the boreal forest
11 much of which is still of fire origin, it would
12 regenerate, true.

13 Q. Now, in light of some of the factors
14 we have just reviewed, can we agree that the natural
15 fire regime differs from the clearcutting regime?

16 A. It differs in a number of senses,
17 that is true.

18 Q. Can we also agree at the local level
19 it is possible that the amount burned now, plus the
20 amount cut, does exceed what the area might have been
21 subject to historically?

22 A. That would be dependent upon the size
23 of the area you were examining. In general, in my
24 analysis, because of the context of Dr. Suffling's
25 witness statement, it was necessary to look at

1 reasonably broad areas because he was dealing in
2 reasonably broad assumptions of his own.

3 At a local level, if you are talking
4 potentially management unit level, it could be possible
5 that current levels of harvest and burning could, in a
6 brief period of time, exceed what might have been
7 historically the case.

8 Q. Okay. Thank you. Now, in your
9 evidence you have also indicated that the area burnt
10 now is approximately one tenth of what it was
11 previously. You have also indicated that the
12 pre-suppression regime was characterized by more fires
13 and bigger fires, and you also said that with
14 suppression, 90 per cent of the fires are now less than
15 four hectares.

16 In light of those figures, can we agree
17 that modern fire suppression has changed or is changing
18 the forest structure from what it might have been in
19 the natural pre-suppression era?

20 A. That is true. You made one statement
21 which is actually incorrect. There are far more fires
22 now than there were in the pre-suppression regime. In
23 the pre-suppression regime man was relatively an
24 insignificant factor in terms of causing fires. Now
25 human caused fires are actually the dominant source of

1 fires, particularly within the area of the undertaking.

2 But it is true. It is quite true that
3 modern fire suppression is having impact on forest
4 structure.

5 Q. Now, I want to pick up on the point
6 that you just raised about the fact that there are more
7 fires now.

8 You have indicated in your evidence, at
9 the bottom of page 6, at the top of page 7, that the
10 area burned now is approximately the same as the area
11 burned in the 1920s and 1930s, and yet yesterday you
12 have indicated that the MNR's fire fighting capability
13 has improved and is much more effective than it was say
14 in the 1920s.

15 If that is the case, can we infer that
16 either there's more fires now or are the fires that are
17 starting, do they spread more quickly? What is the
18 explanation for that?

19 A. There are two factors at work. The
20 statement made that there are -- total area burned
21 annually since 1970 is roughly equivalent to what the
22 historic data for the 1920s and '30s shows, is based on
23 fire losses for the entire province, or at least the
24 entire fire region. So the fire data for at least the
25 past 20 years, in the context of this statement,

1 includes those main fires in the remote northern areas,
2 which basically burn unsuppressed.

3 You always have to be careful when you
4 are talking apples and apples. In this statement we
5 are talking about total fire loss across the entire
6 fire region, including the bulk of those hectares
7 burned resulting from unsuppressed fires which were
8 essentially allowed to burn.

9 As discussed in my witness statement,
10 there was a period in the middle part of this century
11 where there was an apparent general decline in fire
12 activity. Now, we are not certain absolutely what that
13 decline was because again, the recording of fire
14 losses, particularly in the more remote areas of the
15 province at that time, was very incomplete. But there
16 appears to be -- there was a period of one or two
17 decades or there was a general decline in fire
18 occurrence, which is not unusual. We have seen that
19 also than the early part of 19th century in what is
20 called "The Little Ice Age Period," where there was
21 apparent from anecdotal history, a general decline in
22 the occurrence of fires.

23 Q. But did I hear you say a few moments
24 ago that there are in fact more ignitions now?

25 A. That is right. There are many more

1 fires now than there were in, for example, the
2 pre-suppression regime.

3 We are seeing that lightening occurrence
4 is reasonably constant, but that the occurrence of man
5 caused fires is now radically greater than it was at
6 that time.

7 The issue of that suppression
8 effectiveness then is that despite the fact that the
9 number of fires occurring in the forest is greater by
10 some significant factor, in the areas where fires are
11 intensively acted upon the total area lost to fire in
12 those areas, we believe, has been reduced to about 10
13 per cent of the historic level of the losses caused by
14 naturally occurring fires.

15 Q. And in terms of fire increases in
16 area burned, can I refer you to page 7, paragraph 5 of
17 your evidence, and you have indicated that current
18 research suggests that in Canada an increase of about
19 50 per cent in burned area might occur if certain
20 climate warming scenarios are borne out.

21 Can I ask you, first of all, which
22 current research are you referring to?

23 A. That statement is drawn from the
24 paper by Flannigan and Wagner from the Canadian Journal
25 of Forest Research, which was referenced in the paper

1 also.

2 Q. So you have indicated there might be
3 a 50 per cent increase if certain things happen, Dr.
4 Suffling referred to increases of 500 to 5,000 per cent
5 that might be anticipated in other jurisdictions.

6 Can we agree that whatever the risk is of
7 increased burned area, that risk should be factored
8 into our present landscape management decisions?

9 A. I think, as stated later in the
10 paper, in the detailed discussion about the global
11 warming issue, it would be necessary because of the
12 long-term nature of the forest practice, to make some
13 accounting of this potential increase in fire danger in
14 current practice.

15 The thing we also have to note, is that
16 the response of fire management agencies to a changing
17 fire regime as a result of global warming or some other
18 factor is not a constant -- shouldn't necessarily --
19 doesn't necessarily have to assume that what we
20 currently do will be the same thing that we would
21 currently do in the future. If the conditions under
22 which fires occur does start to alter to a significant
23 degree, there would be a change in the management
24 response to fire in that case.

25 Q. And finally, Mr. Ward, can we also

1 agree that when you are making global climate change
2 predictions, it is generally accepted that you should
3 use a range of possible or reasonable scenarios in
4 order to devise management strategies that guard
5 against all possible scenarios. Is that a generally
6 acceptable proposition?

7 A. Well, certainly given the current
8 amount of debate and uncertainty surrounding the global
9 warming debate, it would be difficult in any event to
10 fix on a particular strategy or to narrow your options
11 because there is just not sufficient knowledge
12 presently to make that type of -- to make a very narrow
13 decision.

14 So certainly I would agree that this is
15 still a time where the range of potential outcomes
16 needs to be reviewed and the range of potential
17 responses needs to be reviewed. I wouldn't disagree
18 with that statement.

19 Q. Thank you, Mr. Ward.

20 Mr. Waito, I would like to pose a few
21 questions to you based on your analysis of the
22 silvicultural costs associated with the FFT guidelines,
23 and I'm not going to take you line by line through the
24 costing exercise, and I'm sure you are disappointed to
25 hear that.

1 Perhaps we can start by referring to page
2 8 of your witness statement. At the second bullet
3 point on that page there is an indication that road
4 maintenance and reconstruction costs were not
5 calculated. Can I just ask you to confirm that the
6 committee did not determine road maintenance and road
7 reconstruction costs?

8 MR. WAITO: A. That is correct. We did
9 not.

10 Q. And nevertheless, you have speculated
11 that these costs would be higher under the FFT regime.
12 Can we agree that you have presented no actual data
13 from an actual management unit that would indicate that
14 would be the case?

15 A. In the costing report there is an
16 article by - excuse me for a minute, I will find it -
17 by Nelson and Finn, prepared by the Faculty of
18 Forestry, UBC, that was used by the committee in
19 preparing our report, and it is on the basis of that
20 particular reference that I am speculating that road
21 maintenance and reconstruction costs may be higher.

22 We did not, in our exercise, do any
23 calculations for any management unit in Ontario.

24 Q. That is right. But can you also
25 confirm for me that notwithstanding the Nelson and Finn

1 article, you or the committee did not generate any
2 actual data from any management unit in Ontario to
3 support your claim?

4 A. That is correct.

5 Q. I must confess that we have had some
6 difficulty with your evidence here. We do not
7 understand why the cost would be going up and up and up
8 when you have already built the roads.

9 Let me ask you this. As a general
10 proposition, can we agree that after the leave period
11 occurs that the construction costs obviously go down or
12 aren't even present?

13 A. Okay. You have shifted gears on me
14 now. We are now talking about road construction and
15 not road maintenance and reconstruction, and the
16 committee did do some, or make some calculations and
17 some assumptions to calculations with respect to road
18 construction, which is contained in part, I think, 2B.

19 Without pulling out the document and
20 seeing what the committee came up with, I think in
21 general once your road network is in place, and I think
22 the committee came to this conclusion, that once the
23 road network was in place there would not be a general
24 need for a lot more road construction, and it is my
25 recollection that we came to the conclusion that in the

1 end, roughly the same amount of road would have to be
2 constructed and basically it was a question of the
3 timing of that construction. Would it be constructed
4 over a 20 year period, for example, or would it have to
5 be constructed all earlier on in the management
6 process.

7 Q. I guess my question is this. If the
8 leave period is 10 years you might have some initial
9 construction costs or you will have some initial
10 construction costs and then 10 years of maintenance
11 and/or reconstruction, if that is necessary, but after
12 that the road system has been built and I take it it is
13 your evidence that it is still going to be more
14 expensive under the FFT regime when in fact you have
15 already built the road system up front?

16 A. I am not sure about what is more
17 expensive. There are still going to be costs incurred
18 under the FFT regime to manage using that system. They
19 may not -- I agree that the costs may not be largely to
20 do with roads, but in our costing exercise, a
21 significant portion of the cost of the FFT regime is
22 related to silvicultural activities, site preparation,
23 the actual modified cutting, attending, whatever might
24 be required to achieve the objectives, and those costs
25 would be incurred at the time of the next cut.

(Reply Evidence)

cr ex (Lindgren)

1 But with respect to roads, you are
2 correct, most of the costs of constructing the road
3 would have been incurred earlier on.

4 MADAM CHAIR: Excuse me, Mr. Lindgren,
5 the Board is getting confused about your questions,
6 because when we read this document our understanding
7 was that in fact those costs were not calculated
8 into -- the cost of reconstruction and maintenance are
9 not calculated into the cost of your alternative which
10 is borne in the first 10 years rather than over the 20
11 year planning period. In fact, that could be an
12 advantage to the analysis of those costs. They are not
13 added on. So why are we cross-examining on that?

14 MR. LINDGREN: Because, Madam Chair, we
15 find an indication that -- or at least the inference
16 that if you use the FFT approach and you build more of
17 them earlier, you are still going to have maintenance
18 cost, you are still going to have reconstruction cost,
19 and that is going to make it that much more expensive
20 over the long term and I am trying to establish that
21 point that that is not the case at all. In any event,
22 Madam Chair, I am moving on.

23 Q. Mr. Waito you are aware that larger
24 clearcuts are permitted under the FFT terms and
25 conditions?

1 MR. WAITO: A. Yes, I am familiar with
2 the provisions that under certain exceptions, in the
3 case of an insect infestation I think was one example;
4 another one if it was approved by the senior biologist
5 larger clearcuts would be permitted.

6 Q. Now, it is my understanding that
7 notwithstanding the FFT provisions that allow larger
8 cuts, the possibility of larger cuts were not factored
9 into this costing exercise; is that correct?

10 A. That is correct. In fact, it is
11 interesting you should ask the question because I was
12 doing a little bit of calculation here while you were
13 talking to Mr. McNicol, and although we didn't factor
14 those in, it would appear to me that certainly greater
15 than 90 per cent of the area that the committee
16 developed their cost estimates on would be required
17 under the FFT scenario, assuming that there were no
18 exceptions, to be harvested in blocks of probably 50
19 hectares or smaller.

20 The exception of Jack Pine, where a
21 hundred hectare clearcut is permitted. In the case of
22 Black Spruce, approximately 45 per cent of the area is
23 Black Spruce working group and the requirement is that
24 they be strip cut so that you have very, very small
25 cuts. They may be very long, but they're very narrow,

1 and with the Popular and the White Birch working groups
2 the requirement is that they be 50 hectares -- no
3 larger than 50 hectares.

4 So there would have to be, probably on a
5 very regular basis, if we are going to have clearcuts
6 larger than that 50 hectares, there would have to be on
7 a regular basis, exceptions made to that rule and I
8 can't envision reasons why there might be those
9 exceptions. I guess in the case of moose habitat, you
10 apply those guidelines you go on a routine basis, have
11 cuts in excess of -- strip cut width for the 50
12 hectares.

13 Q. If I could summarize your evidence
14 then, sir. Is it your position that if larger cuts are
15 allowed that would have the effect of reducing costs,
16 including road costs, under the FFT regime?

17 A. If larger cuts were allowed, you are
18 correct, and it would have, I think, the effect of
19 calling into the question, the entire FFT silvicultural
20 package where for the Black Spruce working group, for
21 example, it is specified that you must strip cut, and
22 if for other reasons you can have larger cuts than what
23 you would normally have in the Black Spruce working
24 group for strip cutting, for wildlife purposes, the
25 manager is going to have to make a call; are we going

1 to allow a larger cut for wildlife purposes or are we
2 going to with a smaller cut, i.e. strip cut, for
3 silvicultural purposes. And we are faced with a bit of
4 a dilemma here. But you are correct, the terms and
5 conditions do allow for larger clearcuts than what
6 would normally be done under the silvicultural
7 prescriptions.

8 Q. Well, let's turn now to a discussion
9 of the silvicultural costs associated with modified
10 cutting.

11 First of all, it is my understanding that
12 the estimated cost for strip cutting is based largely
13 on the work done by Ketcheson at Nipigon in the late
14 1970s; is that correct?

15 A. That is correct.

16 Q. And other than translating this work
17 into current dollars, I take it that the MNR and/or the
18 committee had nothing further -- nothing more current
19 to use?

20 A. That is correct. The committee had
21 nothing further to use.

22 Q. It is my understanding that the
23 Ketcheson work has been criticized as being old and too
24 high. Have you heard that criticism?

25 A. No, I have not.

1 Q. Now, again without asking you to turn
2 to it, unless you think it is necessary, on page 54 of
3 the costing report, we see an indication that \$180 per
4 hectare was used as the figure for modified cutting.
5 Maybe you might want to check that.

6 A. That is correct.

7 Q. And again, you can check this as
8 well, but in the MNR response to Board interrogatory
9 136, we see an indication that a cost of \$90 per
10 hectare was used to pay at least one FMA holder to
11 compensate for the extra cost associated strip cutting.
12 Do you recall that answer?

13 A. I don't recall the answer
14 specifically, but the number -- I am familiar with the
15 number.

16 Q. So we have a situation where in the
17 Board interrogatory response you have used a figure of
18 \$90 per hectare and in the costing exercise, at least
19 on this situation, you have used a cost of \$180 per
20 hectare. Can you give me the reasons why the cost
21 doubled?

22 A. The \$180 hectare figure was developed
23 by the committee, not by the MNR. I am simply here
24 representing the committee and the work that we did. I
25 am not here representing MNR and responding to a

1 particular interrogatory.

2 It is my understanding, though, that the
3 90 some dollar figure, Mr. Callaghan may be able to
4 elaborate, but it is my understanding that that figure
5 was developed, was intended to cover the cost of layout
6 and some of those costs. It was not -- it was MNR's
7 intention not to cover the cost of road construction.
8 So the 90 some dollar figure that appears in some FMA
9 documents now does not cover the entire extra cost of
10 strip cutting, whereas the Ketcheson information
11 included the extra costs of road construction as well
12 as layout and so on. So I think that might explain the
13 difference in the two rates.

14 Q. Okay. Thank you. Perhaps just
15 before the lunch break we can go over a few general
16 questions, Mr. Waito.

17 Can you confirm for me that there has
18 been a recent reduction in the silvicultural funding in
19 the MNR forest management budget?

20 A. I don't know if I can confirm. We
21 started off the year with less money, but there's more
22 money coming into the system now. In fact last week I
23 became aware of additional funding being made available
24 to jobs in Ontario to do an up-site preparation this
25 year to plant the trees that we were forecasting would

1 be surplus next year. So there are things still
2 happening in the funding side of things. Mr. Callaghan
3 indicated he might have some additional information.

4 MR. CALLAGHAN: A. In the period we
5 looked at for the costing exercise, the budget for the
6 boreal or the three boreal regions was \$90.6 million.

7 As of two weeks ago, and that includes
8 this new money, the similar rate or the budget for this
9 year for those three regions is approximately \$75
10 million. So it has gone down from what we looked at
11 before.

12 Q. Okay. Thank you. And Mr. Callaghan
13 or Mr. Waito, are you in a position to confirm that
14 there has also been a significant reduction in the
15 number of seedlings that have been produced and
16 provided for the purposes of artificial regeneration.

17 MR. WAITO: A. I think for this year we
18 will actually plant fairly close to our traditional
19 levels. We will probably be down a little bit, but
20 you're right. We are forecasting that for next year
21 and subsequent years the demand for seedlings, based on
22 the funding that is being made available now, is to be
23 reduced or will be reduced.

24 As I just mentioned, we are getting extra
25 money for site preparation this year to plant the

1 seedlings that we were forecasting would be surplus to
2 our ability to plant next year, which is approximately
3 14 million. I haven't done an analysis to see if that
4 puts us back to our -- around our traditional levels or
5 not, but my general sense is that the demand for
6 planting stock is going down because of a lack of
7 funding.

8 Q. And given that lack of funding, Mr.
9 Waito, is it reasonable to expect that the MNR will
10 likely use more and not less natural regeneration in
11 order to regenerate cutover areas?

12 A. That is the only other alternative;
13 either do it artificially or naturally. And whether it
14 is natural regeneration via strip cutting or whether it
15 is natural regeneration -- or pardon me, assisted
16 artificial regeneration areal seeding, which is a lower
17 cost, it could mean using other lower cost artificial
18 regeneration techniques that don't include planting and
19 it will, I am sure, result in some area just being
20 harvested and allowed to regenerate naturally by
21 itself.

22 Q. Can we agree that even at the present
23 time, and on an annual basis, there is more land left
24 for planned and unplanned natural regeneration than
25 there is land that is intensively managed?

1 A. That is correct.

2 Q. And in fact the MNR answer to Board
3 interrogatory 141 indicates that at the present time
4 some 30 to 35 per cent of area treated is treated
5 intensively. Is that the most current or up-to-date
6 figure?

7 A. I think that is a fairly accurate
8 figure.

9 MR. LINDGREN: Madam Chair, I propose
10 that this would be an appropriate time for a break and,
11 I can advise that I will be at least an hour upon
12 resumption this afternoon.

13 MADAM CHAIR: Okay. Thank you, Mr.
14 Lindgren. We will be back at 1:30.

15 ---Luncheon recess at 12:00 p.m.

16 ---On resuming at 1:30 p.m.

17 MR. LINDGREN: Madam Chair, I note that
18 counsel for the MNR is not here, so I will proceed with
19 my examination, but I can tell you this. You will be
20 happy to know that we were able to negotiate a
21 successful conclusion to this undertaking, and it is my
22 understanding that MNR is prepared to attempt to meet
23 the spirit and intent of the undertaking by way of
24 production of a list and it is also my understanding
25 that I will be provided access to any maps that I might

1 like to look at in conjunction with the list and it is
2 also my understanding that this work will proceed as
3 expeditiously as possible with a view to completing it
4 by August, and perhaps Mr. Kennedy can speak to the
5 matter if I have left anything out.

6 MR. KENNEDY: Yes, Madam Chair, we would
7 attempt to provide from existing information, without
8 undertaking any additional mapping at this time due to
9 the expense of that exercise, submit existing
10 information, produce the list of the individual blocks
11 or aggregates of blocks that have been referred to as
12 created in 260.

13 As well, we will provide Mr. Lindgren
14 with the supporting rationale and documentation that is
15 likely existing in the plans themselves, and if it does
16 exist in other documents which may be accompanying the
17 plans, in supplementary documentation with regards to
18 the application moose guidelines, we would also provide
19 copies of that to him. And as he has indicated, any
20 other supporting maps. We will make arrangements so
21 that he could have access to maps, so that he could
22 match the listing of the maps and provide that in draft
23 form to him to see if that meets his request prior to
24 finalizing the response.

25 MR. LINDGREN: And I would like to thank

1 the MNR for offering to do that work on our behalf.

2 As I indicated earlier, it is my view
3 that that is relevant and important evidence. So,
4 Madam Chair, I would ask at this time for the Board to
5 reserve an exhibit number for the answer to that
6 undertaking. I don't intend to receive it and put it
7 in my filing cabinet. I intend to use it here.

8 Madam Chair, the concern is that I might
9 not get it in time before the end of the evidence
10 portion of the hearing. So I want to reserve an
11 exhibit number now so we can file it when we do get it.

12 MADAM CHAIR: All right, that will be
13 2270, Mr. Lindgren.

14 ---EXHIBIT NO. 2270: MNR list and maps, et cetera,
15 [Reserved] as mentioned above.

16 MR. KENNEDY: Madam Chair, if I might
17 ask, while we undertake the additional work, the
18 response that was prepared was in response to the
19 surveys by yourself on the Board interrogatories. Was
20 there any other additional information you had in mind
21 that was necessary in response to the question so that
22 we only go back to do this once?

23 MADAM CHAIR: No, that will satisfy
24 anything else the Board wants, Mr. Kennedy. Thank you.

25 MR. LINDGREN: Thank you, Madam Chair.

1 Q. Mr. Waito, yesterday I provided you
2 with a copy of two pieces of correspondence, one dated
3 February 3rd, 1992, to Crandal Benson and signed by
4 yourself. The second piece was a letter to yourself
5 from Mr. Benson dated February 3rd. Do you have those
6 documents there.

7 MR. WAITO: A. Yes, I do.

8 Q. And do you recognize those documents?

9 A. Yes, I do.

10 MR. LINDGREN: Madam Chair, I ask that
11 those be marked as the next exhibit, and for the
12 record, Madam Chair, Exhibit 2271 consists of a three
13 page letter from Mr. Waito to Mr. Benson dated February
14 3rd. It also contains a February 3rd 1992 letter to
15 Mr. Waito from Mr. Benson, and that piece of
16 correspondence is seven pages.

17 ---EXHIBIT NO. 2271: Three-page letter from Mr. Waito
18 to Mr. Benson dated February 3, 1992 and
19 a 7 page letter to Mr. Waito from Mr.
Benson dated February 3, 1992.

20 MR. LINDGREN: Q. Now, Mr. Waito, using
21 this letter, I would like to ask you a few brief
22 questions about the wood supply portion of the costing
23 exercise, and can I direct your attention to the second
24 paragraph on the first page of Exhibit 2271, and there
25 you have written;

1 I agree with your comment regarding the
2 limited of nature of our study, however,
3 I don't believe that we ever ---

4 MR. FREIDIN: I am sorry, where are you
5 reading from?

6 MR. LINDGREN: The second full paragraph
7 on the first page of Exhibit 2271.

8 MR. FREIDIN: Thank you.

9 MR. LINDGREN: Q. And continuing,

10 I don't believe that we ever intended
11 to use it even if we could have been able
12 to study three units to extrapolate the
13 results across Ontario. I thought that
14 the study was only to be used to
15 demonstrate the differences in wood
16 supply that one might expect to get if
17 you practice silviculture in several
18 different ways. This can certainly be
19 demonstrated using one management unit.
20 We must make it very clear to the Board
21 that the results should not be
22 extrapolated across Ontario.

23 Now, I listened to your evidence very
24 carefully yesterday, Mr. Waito, and you did not give
25 that caveat to the Board, so let me ask you this.

1 Can you explain why you can't extrapolate
2 the results across Ontario?

3 MR. WAITO: A. There is a fair bit of --
4 in the report that we prepared the most -- the four
5 members of the committee attempted to describe why, but
6 when doing a wood supply analysis it is usually, at
7 least using the FORMAN model, very unit specific and
8 the results that you get at this level of wood supply
9 modelling depend on the age class distribution, the
10 sites you are dealing with and the assumptions you make
11 about how the forest is going to be harvested and
12 growing. So using this particular model, the results
13 that we obtained, we felt should not be used to
14 extrapolate across Ontario.

15 In our committee discussions, Mr. Benson
16 was concerned that we were not going to be doing that.
17 He felt that we should have been trying to provide some
18 sort of a provincial picture, and as a committee we, I
19 think, came to the conclusion that that would not be
20 the appropriate thing to do. In fact, it wasn't what
21 our mandate was. Our task was simply, as I tried to
22 explain it here, to examine what might happen on a
23 particular piece of geography if you practice
24 silviculture in a couple of different ways.

25 We didn't feel that it was our mandate,

1 we didn't have resources or the time to do that sort of
2 analysis using the FORMAN model for all of Ontario, and
3 this was, I think, in spite of Mr. Benson's concern
4 that it might have been a good idea to look at it at
5 the provincial level.

6 Q. Okay. Thank you. Now, in the fourth
7 paragraph on page 1, you are responding to Professor
8 Benson's suggestion that the Spruce River Forest is not
9 typical in terms of ability to naturally regenerate,
10 and in the fourth paragraph you seem to indicate that
11 he may be correct and in fact it would be misleading to
12 suggest that the Spruce River situation is typical of
13 most management units. Is that a fair summary of your
14 evidence?

15 A. Not having very good knowledge about
16 how Black Spruce regenerates or how easily it is to
17 regenerate on the Spruce River Forest, I was
18 acknowledging his comment.

19 I think Mr. Squires, in his response to
20 Mr. Benson's point here, actually disagreed with Mr.
21 Benson and he felt that it was quite easy to get
22 natural regeneration on a Spruce River Forest. So
23 there was a difference of opinion there and I just left
24 it at that.

25 MADAM CHAIR: Excuse me, Mr. Waito. I

1 thought the Board's recollection of the comments by Mr.
2 Squires in the study was that it wouldn't be
3 satisfactory at all to have natural regeneration of
4 Spruce in the Spruce River Forest. I thought Mr.
5 Squires said planting Spruce was absolutely necessary.

6 MR. WAITO: I think, and I will have to
7 put myself or try and remember what Mr. Squires was
8 talking about. I think he has made the point that on
9 certain sites, certain situations, planting is
10 necessary and it is preferred method of renewal.

11 We also being acknowledge that there are
12 sites. I think in the case of the Spruce River Forest
13 he was referring to low land sites. That it was
14 possible to get adequate, in their opinion, his
15 opinion, Black Spruce regeneration by relying a natural
16 generation techniques.

17 I don't think Mr. Squires was taking the
18 position that was necessary to plant every hectare on
19 the Spruce River Forest, but on the most -- on the more
20 productive up land Black Spruce sites, it was very
21 important and it was very necessary to plant to get the
22 level of Spruce regeneration that they were seeking.
23 Again, a very site specific thing.

24 MR. LINDGREN: Q. Mr. Waito, in the
25 final paragraph on page 1, you respond to Mr. Benson's

1 comments about the differences between the timber
2 management plan you looked at and your study, and at
3 the bottom of the page you say that Professor Benson is
4 correct in the sense that the committee might not have
5 reflected very well what would have been done on the
6 Spruce River Forest in the real world. Can you explain
7 those comments?

8 MR. WAITO: A. If I remember, in the
9 real world, on a Spruce River Forest, there is very
10 little if any modified harvest cutting of Black Spruce
11 done. Some of the prescriptions that you might develop
12 from the Forests for Tomorrow terms and conditions are
13 not practiced, and in our modelling scenario we develop
14 prescriptions to apply to that particular land base.
15 And whether or not prescriptions that we developed for
16 modelling purposes were what would normally be done on
17 the Spruce River Forest was open to question, and I am
18 just simply acknowledging that that may be the case.

19 I didn't think that for modelling
20 purposes it was a real big deal, because what we were
21 trying to do in our modelling, we needed a land base to
22 deal with, the Spruce River Forest. FRI was accessible
23 to us, the unit forester was accessible to us in terms
24 of approaching him to ask about what kind of forests
25 would be expected to regenerate under certain

1 conditions. So we used the Spruce River Forest, FRI,
2 as the data base to do our modelling. That was to be
3 the extent of using the Spruce River Forest.

4 From then on in the three scenarios that
5 we were modelling, were simply to look at the
6 differences to what we might get in terms of results
7 from those three scenarios and it was not intended to
8 be used to validate or to run a check on what was
9 written in the Spruce River TMP or whatever. It was
10 simply a piece -- the information on the land base was
11 used and required and so our modelling really was a
12 comparison of results we got between three scenarios
13 and not what may or may not be the right thing to do in
14 the case of management on the Spruce River Forest.

15 Q. So would you agree that the whole
16 costing exercise can be characterized as a rather
17 artificial or hypothetical exercise?

18 A. No.

19 Q. You just said that it had little or
20 no connection to what might happen in the real world.

21 A. You are talking about the entire
22 costing exercise now. We have gone from wood supply
23 analysis to costing, and in terms of the cost
24 information, it is based on -- the cost information
25 used was based on real numbers, the best information we

1 had, and the wood supply analysis was based on the best
2 information that we had given what we were trying to do
3 as a committee, and I believe that the results that we
4 got are useful. They provide information to the Board
5 that can be used to give them a sense of the magnitude
6 of difference, what it might be, and for that reason I
7 think the work that the committee did, you know, can be
8 used for that purpose, keeping in mind that whenever
9 you do any kind of modelling you have to make a lot of
10 assumptions and...

11 Q. Well, you are anticipating my very
12 next question, Mr. Waito. Can I ask to you turn to
13 page 2 of your letter, and in the second paragraph,
14 second line, you write;

15 We must not make this wood supply
16 analysis out to be more than it is which
17 is a point in time analysis based on a
18 questionable set of assumptions as they
19 always be of the difference in wood
20 supply that one might get using three
21 different silvicultural packages.

22 Can you give me particulars on the
23 questionable assumptions?

24 A. Well, I can take you back yesterday
25 to Mr. Martel's question about yields. He asked since

1 we haven't gone through an entire rotation, how can
2 we -- how are we to know what yields to expect, and we
3 were faced with that dilemma, if you will, when we were
4 doing this wood supply analysis. What yields were we
5 going to use, and whenever you don't have the
6 definitive answer as to what is right and what is wrong
7 you have to make assumptions. Whenever you make
8 assumptions people will question you as to whether the
9 assumptions are valid; whether they're too high or too
10 low, too hot or too cold, and I am simply making that
11 comment that whenever you do any kind of modelling
12 you're subject to questions.

13 Q. On the issue of growth and yield, can
14 you confirm for me that the committee had no hard or
15 empirical data as to what the further yield, what it
16 was going to be? Basically you came up with estimates.

17 A. The yield information was provided by
18 the unit forester for the Spruce River, FMA. Dave
19 Hayhurst who was our expert modeller, the individual
20 who was running the model for us, dealt with that
21 individual in developing our yield curves and our
22 estimates.

23 It is my understanding that the
24 information was used to develop the yield curves based
25 on region survey work they had done on the Spruce River

1 Forest and on whatever information they had available
2 to them that might help them in developing yield
3 curves.

4 So to say that we didn't use any hard
5 data, I think that would be incorrect because I think
6 that the unit forester did have access to some hard
7 data; be it regeneration survey information. But the
8 committee didn't have that itself. That work was done
9 by our modeller in conjunction with working with the
10 unit forester.

11 Q. I refer you back to the second
12 paragraph and skipping down a couple of lines we see a
13 sentence;

14 If anything, I think the most
15 important thing is that we can agree that
16 this type of analysis should be done at
17 the management unit level when TMPs are
18 prepared and it may have some value,
19 although I believe it would be limited,
20 to do at the provincial level.

21 And when you are talking about a
22 provincial level analysis, are you talking about taking
23 the different silvicultural regimes and modelling them
24 at the provincial level?

25 A. I think what I was referring to there

1 was the use of the FORMAN model to do such an analysis.
2 The FORMAN model itself, is, I don't think, from what
3 knowledge I have, little knowledge I have about the
4 model, is not a suitable model for doing provincial
5 level analysis. And it is for that reason that I make
6 the comment. It's a model that is more suited to do an
7 operational level analysis at the timber management
8 unit level.

9 Q. So I am not quite clear on why you
10 believe it would be of limited value to do that at the
11 provincial level?

12 A. I think that the results you might
13 get if you were to try and model the province as one
14 large management unit -- because of the way this
15 particular model works and schedules the harvest, would
16 not reflect reality in terms of where you would
17 actually be carrying out your harvest. The model looks
18 for those stands that have the volume that makes them
19 eligible for harvest, and it may tell you if you
20 treated the entire province as one big management unit,
21 that all of your harvest has to be concentrated up in
22 the Red Lake country for the 10 years for the entire
23 province and that is not just practical. So that is
24 why the model really should be used at the management
25 unit level in this case.

1 Q. Okay. Thank you. Could I ask to you
2 return to page 8 of your witness statement, and that is
3 where we were this morning.

4 Now under the heading "The Wood Supply
5 Analysis," you refer to costs under each of the three
6 scenarios. Can you confirm for me that cost was not
7 considered or modelled as part of the wood supply
8 exercise?

9 A. In the cost part of the analysis it
10 was not. In doing the modelling, cost information was
11 incorporated into the model and the computer print-outs
12 that were produced, and they are included in the
13 appendices of the report, and do provide an estimation
14 of cost at a gross level on a five year basis for the
15 hundred year period.

16 I used that information to make these
17 comments here, my own personal comments. The committee
18 itself did not because we had difficulty coming to
19 grips with a number of matters on how to determine
20 costs for the particular unit. The committee chose not
21 to bring the cost part of it into the main body of the
22 report.

23 Q. So when we see in your witness
24 statement the statement that the average cost under FFT
25 scenario one will be 20 per cent greater and 110 per

1 cent greater under scenario two, those are your
2 personal comments and not that of the committee,
3 correct?

4 A. That's right, they are my personal
5 comments and the information on which they are based is
6 contained in the report.

7 Mr. Callaghan would you like to add
8 something?

9 MR. CALLAGHAN: A. If I may add, the
10 cost in terms of silvicultural is an output of the
11 FORMAN model. What the modeller inputs is the area to
12 be treated. So the model takes that area to be
13 treated, attributes the cost which were unit costs
14 developed by the committee and applies those to the
15 areas which are being treated.

16 In modelling talk, it is not a budget
17 sensitive model such that you put in a budget and it
18 allocates silviculture to that budget. It is a harvest
19 scheduling model where you schedule harvest and
20 describe the size of the treatment area in terms of
21 hectares, and then using cost factors within the model
22 it attaches those costs to the hectares. So the costs
23 which are reflected in the appendices are truly a
24 reflection of what the cost of that program would be.

25 Q. Well, Mr. Callaghan, I take it that

(Reply Evidence)

cr ex (Lindgren)

1 you have read the report and I presume you have read
2 page 28 where it says;

3 The committee was not able to
4 rationalize the expected silvicultural
5 cost for wood supplied prior to this
6 project for either of FFT scenarios,
7 therefore costs were not modelled.

8 Are you in agreement or disagreement with
9 that statement from the committee?

10 A. That statement is based upon the
11 premise that from the beginning that the committee was
12 assuming, that if the terms and conditions were
13 approved the funds would be available for the
14 silvicultural program.

15 In terms of what they mean by
16 rationalizing costs, not all -- neither of the three
17 scenarios were funded at the at the same level. That's
18 what they are meaning by rationalizing.

19 Q. Well, Mr. Waito, you were on the
20 committee. Perhaps I can re-directed this question to
21 you.

22 It is my understanding that one of
23 reasons that costs were not modelled was that it was
24 hard to compare the areas treated under each of the
25 scenarios; is that correct?

1 MR. WAITO: A. I don't know if it was
2 hard to compare the areas.

3 One of the reasons we had difficulty in
4 rationalizing cost was it particularly dealt with the
5 Black Spruce working group and there was much
6 discussion about when we are strip cutting, when do we
7 incur the cost? Year one, at year 10 when we come
8 back? What are the costs and for that my recollection
9 for that particular working group and that particular
10 harvest or the cost associated with the Black Spruce
11 working group, and they had much discussion and
12 difficulty in agreeing on when costs would be incurred
13 and therefore chose not to include it in the body of
14 the report as a committee conclusion.

15 Q. Well, let me give you an example of
16 what I mean by the difference in areas treated and the
17 difficulty in comparing.

18 Now, I have read the material. It is my
19 understanding that in the first five years the FFT
20 scenario number one treated some 39,000 hectares and
21 left 1,300 untreated, whereas scenario number three,
22 which is the present practice, treated some 14,000
23 hectares and left 37,000 hectares untreated and for
24 that reason the committee decided it was an apples and
25 oranges comparison, didn't get into the cost component.

1 Is that a fair assessment?

2 A. To be honest, I don't know what
3 numbers you are referring to so I really can't comment.
4 Could you take me to some spot in the report?

5 Q. Well, let's turn first to page 215,
6 and it is my understanding this is FFT scenario number
7 one, and it shows almost 40,000 hectares treated and
8 keeping that in mind turn to page 229, and it is my
9 understanding --

10 MR. FREIDIN: What is the second page,
11 please.

12 MR. LINDGREN: 229.

13 Q. It is my understanding that page 229
14 depicts the MNR area treated and it is some 14,000.
15 And it is my understanding because of the differences
16 in the area treated a committee felt it was
17 inappropriate to start getting into the cost question
18 of the wood supply side. I will put the question to
19 Mr. Waito first.

20 MR. WAITO: A. I don't think that from
21 those two graphs you can draw the conclusion that that
22 is why we had difficulty. These graphs simply, or bar
23 charts, simply plot over a hundred year period, cost
24 and no cost silviculture. It can be used then to get a
25 sense of, in any five year period, how many hectares or

1 how much area by working group received some sort of
2 silvicultural treatment that costs money based on the
3 cost of those silvicultural treatments that were
4 determined by the committee, and that's really all it
5 can be used for. I do not think that was the basis for
6 why we had difficulty in rationalizing the area
7 figures.

8 Q. Mr. Callaghan, you have something to
9 add?

10 MR. CALLAGHAN: In the present practice
11 graph, the source for that 14,000 hectares is the
12 average intensive silvicultural plantation
13 establishment that has been going on in the Spruce
14 River Forest. Because we were trying to take the
15 present practice and compare that to the scenarios.
16 The reason this is at 14,000, is that is what they have
17 been traditionally funded to treat. Whereas the other
18 graph, the scenario one graph, doesn't reflect that
19 reality in past practice. It is just assuming that we
20 are going with the those terms and conditions and with
21 the assumption that funds will be available we would be
22 treating that level of silviculture.

23 Q. And in effect you would be treating
24 more area under the FFT scenario?

25 A. Given that funds were available, yes.

1 Q. Mr. Waito a few final questions on
2 this portion of the evidence. At page 9 of your
3 witness statement you indicate in the second bullet
4 point that one major component in the cost of the FFT
5 silvicultural standards was the reliance upon manual
6 tending.

7 Now, can you confirm that the committee
8 assumption was that all areas would require at least
9 one manual treatment under the FFT scenarios?

10 MR. WAITO: A. That is correct. The
11 committee, after much discussion, we acknowledged that
12 some areas would require more than one tending, some
13 would require no tending at all and then in order to
14 achieve the standards that have been set by the terms
15 and conditions, and I can mention Black Spruce 80 per
16 cent stocking, there is a number of what I would call
17 standards that are listed and are listed in the report.

18 In order to achieve those standards,
19 which we thought were very high standards, the tending
20 would be essential and the manner in which we captured
21 that in the tabular form that we were using was to
22 assume that every hectare -- the equivalent of every
23 hectare would be tended at least once.

24 That is not to say, as I started to, that
25 every hectare would be attended once. It simply

1 reflects that on average every one would. Some would
2 receive no tending, others might have to be tended two
3 times. So on average, each hectare would receive one
4 tending in order achieve those standards.

5 Q. But I think you just said in reality
6 not all areas would require manual tending?

7 A. That is right. In reality some areas
8 would require manual tending more than once. So on
9 average, because of the format of the tables and the
10 way they were used to calculate costs, the committee
11 agreed, in one of the scenarios at least, one of the
12 regimes, that manual tending would be required on
13 average on every hectare.

14 In some of the other regimes that we used
15 as we were developing a range of costs, the assumption
16 was made that only half the area would require manual
17 tending, and that was reflected in the costs as well.

18 Q. Now, I presume that you are familiar
19 with FFT's terms and conditions and can you confirm for
20 me that the FFT terms and conditions clearly
21 contemplate chemical release, albeit not through areal
22 applications?

23 A. I am not familiar with the particular
24 term and condition that you are referring to. The ones
25 we were using were the silvicultural Ts and Cs. I

1 think it was - I forget the number now- but 1416A, and
2 to my recollection there was no mention in that set of
3 Ts and Cs of any tending at all.

4 Q. Well, Mr. Waito I will put it to you
5 that chemical treatment by means other than areal spray
6 is not prohibited by the FFT terms and conditions. In
7 fact, chemical treatments can and probably would be
8 used under the FFT scenarios.

9 Assuming that is the case, if you were to
10 use chemical treatments as opposed to manual tending,
11 would that have the effect of bringing down the cost of
12 the FFT silvicultural regimes?

13 A. Yes, I think it would and I can take
14 you to a portion in the report where we have actually
15 reflected that.

16 If you turn to page 54, again it is the
17 Black Spruce working group, and if you look at the row
18 opposite the site preparation cost you will see under
19 Regime D, the cost of \$568 a hectare in a couple of
20 places. In the first column where it is \$568 a
21 hectare, that includes the application of chemical
22 herbicide at the time site preparation was done, and
23 the cost reflects that and it would be on the ground
24 application which, according to what you have just said
25 would be permissible. And what we did in this case, we

1 reduced the need for manual tending by the equivalent
2 of half, if you will, so we only have \$460 per hectare.

3 In the next column we have a cost of site
4 prep of \$293, which doesn't include the application of
5 herbicide and we have increased the cost.

6 I agree with you that the use of
7 herbicides to control vegetation, be it at the site
8 preparation level or when tending is actually required,
9 if it possible to do it by ground application, could
10 have the effect of bringing the total cost -- the total
11 unit cost down.

12 Q. Okay. Thank you.

13 Before I leave the costing exercise, I
14 have a couple of questions for Mr. Callaghan. Now,
15 yesterday, Mr. Callaghan, you showed us a graph which
16 seems to indicate at the provincial level we will get
17 more hardwood under the FFT scenarios than the present
18 practice alternative. Do you recall that evidence?

19 MR. CALLAGHAN: A. Yeah, not that the
20 level of the three northern regions in the area that
21 was being studied. It was not for the province.

22 Q. Fine. Can I ask you to turn to page
23 200 of the costing exercise, and we see on that page
24 and into the next two pages, a summary of the species
25 composition for each of the regimes. It is my

1 understanding that page 200 is FFT scenario one, and
2 can I direct your attention to the two columns on the
3 right-hand portion of the graph entitled, "SWD and
4 HWD."

5 A. Page 200? Yes, softwood and
6 hardwood.

7 Q. Thank you. You see a figure of 9
8 under the softwood and 1 under the hardwood. Can you
9 confirm that this translates into 90 per cent softwood
10 content?

11 A. That was based on the treatments
12 utilized for that one management unit..

13 Q. Okay, that is fine. But can we agree
14 that that resulted in a 90 per cent conifer content?

15 A. For that area treated, yes, and
16 mostly Balsam fir.

17 Q. And can I take you to the next page.
18 You see a similar summary for FFT regime number two,
19 and again looking at the same columns we see 80 per
20 cent conifer composition. Can you confirm that?

21 A. That is correct.

22 Q. And then finally looking at scenario
23 number three on page number 202, this is the present
24 practice alternative, we see 80 per cent conifer
25 content under the MNR regime. Can you confirm that?

1 A. Yes, that is correct. I would note
2 that there is a higher level of black spruce in that
3 content as well.

4 Q. I am going to put it to you, Mr.
5 Callaghan, your evidence or your projection that the
6 FFT scenarios would result in more hardwood is totally
7 at odds with the evidence that was adduced for this
8 management unit, and in fact the FFT scenarios were
9 coming back with as much conifer or more conifer than
10 present practice.

11 A. The yields that I used were developed
12 from 60 management units based upon yield curves
13 developed for intensive/extensive and basic
14 silviculture. What I did was attribute the various
15 practices in here, mostly to basic silviculture,
16 which -- and then I averaged those curves for the 60
17 management units to get the curves I utilized.

18 As well, my curves don't go down in terms
19 of breaking it up in terms of species composition.
20 Mine identify component hardwood/softwood and we were
21 only looking at one point in time, 60 years in the
22 future.

23 What is there, is the accepted
24 composition that you will get on the Spruce River
25 Forest given the level of silviculture practiced under

1 the three scenarios and the original composition of the
2 forest.

3 Q. I still put it to you, Mr. Callaghan,
4 with a great deal of respect, the actual data we have
5 here is inconsistent with what you have presented to
6 the Board?

7 A. I don't believe so. I believe what
8 is presented here is data for one management unit and I
9 was looking at about 60 management units. In other
10 unit they may have quite a bit less success with
11 conifer renewal through your methods. As well, you
12 were just looking at Spruce working groups or conifer
13 working groups. Mine also encompasses all the hardwood
14 working groups which comes back to higher contents of
15 hardwood, and they also get averaged into the curves
16 that I was utilizing.

17 So my curves are running through the six
18 or seven major working groups, not just looking at the
19 conifer working groups as they were here.

20 MR. FREIDIN: When you say here, are you
21 referring to the committee report?

22 MR. CALLAGHAN: The management unit X
23 portion of this committee report.

24 MR. FREIDIN: I am just asking, Mr.
25 Callaghan, when you refer to this, are you referring to

1 the committee report, just so we are clear.

2 MR. CALLAGHAN: The copy exercise report.

3 MR. LINDGREN: Q. Now you have indicated
4 just a moment ago that you used 60 years as a point in
5 time that you are going to look at the forest. Can we
6 agree that it is an arbitrary number?

7 MR. CALLAGHAN: A. Yes.

8 Q. Can we agree that if you use
9 extensive silviculture you will generally get maximum
10 MAI at periods greater than 60 years?

11 A. Yes, but you would also have the
12 benefit for those areas on a shorter rotation of maybe
13 renewing them one and a half times. So that if you had
14 a 70 year rotation for a plantation and a hundred year
15 rotation for an extensively managed area, you'd get the
16 growth from that 70 years plus the 30 years on top of
17 that. So taking 60, which is a pre-rotation age for
18 all of them, puts them more on an equal footing and
19 simplifies the math.

20 Q. Well, the point I am simply trying to
21 establish, is that for the FFT scenarios you did not
22 use the figure that maximized the annual increment?

23 A. And as I have said in one of my
24 interrogatory responses, it is all the same for all
25 three scenarios. I didn't do that.

1 Q. Now, Mr. Callaghan, before I leave
2 you, I see that your CV indicates that you are a
3 project leader for the timber production policy and I
4 see a smile on our face. You probably know that FFT
5 has been asking about that new policy for four years
6 and I would be remiss if I did not ask you where is it
7 and when are we going to see it?

8 A. I was actually surprised that it
9 wasn't mentioned in my introduction that that is what
10 my current position is.

11 Timber production policy is currently in
12 a background phase and yes, we have been in it for
13 about four years.

14 The way we have set the project up, we
15 are collating the best set of data we can in developing
16 analytical methods at this point. We also are
17 cognizant of some other initiatives with MNR which will
18 set direction for us, such as these hearings
19 themselves, the terms and conditions which come out of
20 them, the comprehensive forest policy framework in
21 giving us the overall guidance for forest management in
22 this province, as well as the results of the
23 independent forest audit, which will tell us how
24 successful we have been in both natural and artificial
25 renewal.

1 Once we pass those stop signs, as I call
2 them, some time next spring, we will be going public in
3 an open options development format where all the
4 parties to this hearing, as well as other interested
5 publics, will be invited to co-operatively help us
6 develop a series of options which myself and my staff
7 will quantify.

8 Is there more that you would like to ask
9 or is that complete enough? It is a big subject.

10 Q. Well, it is also a phantom subject.
11 We have to take your word for it that it is going to be
12 prepared and released after the close of the hearing
13 much like the results from the independent audit, and
14 quite frankly I find myself, my client and this Board
15 at a slight disadvantage not knowing what is going to
16 be in it. But we will leave that for final argument.

17 But did I hear you say that at some point
18 there will be an opportunity for public review and
19 comment?

20 A. Not only that, but the public will be
21 actively involved as to the level they want to in
22 developing the options. We are no longer going with
23 the we develop the options and you can review them. We
24 would like to bring everybody together so we can all
25 co-operatively develop a series of options which

1 everybody has some buy-in in some form or fashion.

2 Actively getting people to participate in the
3 development. Not just into a review mode.

4 Q. That is much appreciated, but is that
5 going to happen after this hearing or after the Board's
6 decision has been rendered?

7 A. My original hope, personally, was
8 that would happen sooner rather than later, but because
9 of circumstances and other initiatives, we have been
10 asked to wait until the policy panel is finished and
11 terms and conditions have been rendered so that they
12 can help guide us in the overall development of the
13 policy.

14 Q. By terms and conditions, do you mean
15 the terms and conditions emanating from this Board?

16 A. That is correct.

17 Q. Dr. Abraham and Dr. Steedman, I have
18 a few brief questions for you on the effects and
19 effectiveness programs.

20 Dr. Abraham, I have heard you say a
21 couple of times that the work is proceeding at a
22 somewhat slower space because of the current fiscal
23 climate, I think you called it. To me that is a polite
24 way of saying you have had a cutback. Can you tell me
25 if in fact you have had fiscal cutbacks in the moose

1 program.

2 DR. ABRAHAM: A. Well, The entire
3 Ministry of Natural Resources has, and the government
4 of Ontario, has fiscal constraint over the last year
5 and a half and likewise our program has been -- has not
6 increased at the anticipated rate it would increase.
7 That is correct.

8 Q. Well, Dr. Abraham, I can read the
9 paper. I know that the government at large is
10 experiencing fiscal constraint. But I want to know of
11 the particulars of the cutbacks in your particular
12 program.

13 Can you tell me how much was originally
14 anticipated or promised and how much has actually been
15 allocated and will be allocated over the next few
16 years?

17 A. Those numbers aren't contained in
18 witness panel -- reply panel number four in terms of
19 the amount of money that has been allocated to each
20 project over the last three years or four years, three
21 years, and I don't have them right in front of me but
22 we can refer to them.

23 Q. Well, at this point, Dr. Abraham,
24 could you simply tell me, has there been a decrease in
25 the funding made available for the MGEM program?

1 A. In the current fiscal year, yes, we
2 have less money. I think approximately -- well, I
3 don't want to say approximately, but we have, yes, less
4 money in the budget this year than we had last year.
5 That is correct.

6 Q. And is that a five per cent
7 reduction, a 10 per cent reduction? What is the order
8 of magnitude that we are talking here?

9 A. Okay. I have the numbers here now.
10 In the moose program total funding in 1989/'90, and
11 this includes all staff and direct operating expenses,
12 was \$190,000 dollars. In 1991, it was \$350,000. In
13 1991/'92 it was \$430,000, and in 1992/'93, it is
14 \$300,000. So that translates to about a 30 per cent
15 reduction. And most of that money -- most of the
16 reduction was in direct operating expenses.

17 MADAM CHAIR: Excuse me, Mr. Lindgren, do
18 we have interrogatory responses to question 5 and 6?
19 Are they an exhibit now? That is where the funding
20 summary is.

21 MR. LINDGREN: I have no idea where Dr.
22 Abraham was reading from. I do not even know if it is
23 for this panel or not.

24 MR. FREIDIN: You thought it was 5, 6 and
25 Panel 4?

1 MADAM CHAIR: No, this is for Panel 2.
2 You have given us at some point the response as to
3 Forests for Tomorrow's interrogatories 5 and 6 and I
4 have a funding summary in front of me and I would like
5 that to be an exhibit if it isn't already.

6 MS. BLASTORAH: Madam Chair, all of the
7 interrogatories, I believe, from both MOE and FFT in
8 relation to Panel 2 were marked as part of Exhibit
9 2259.

10 DR. ABRAHAM: Madam Chair, that is the
11 table from which I was reading the interrogatory
12 response.

13 MR. LINDGREN: Q. Dr. Abraham, a couple
14 of brief questions about the program itself.

15 I reviewed the four main objectives for
16 the program that you have described in your overheads.
17 Is it fair to say that the program is not specifically
18 looking at those species which do not presently benefit
19 from the application of the moose habitat guidelines?

20 DR. ABRAHAM: A. I am sorry to say that
21 the description that I placed before you was for the
22 habitat conditions raised by the moose guidelines, but
23 the specific species questions dealt only with moose.
24 There are other programs proposed or initiated that
25 deal with other species that are affected by the

1 application of the guidelines. But insofar as what I
2 presented, the four main tasks were for the moose
3 species or for habitat created by moose guidelines.

4 Q. So I take it the answer to my
5 question is yes?

6 A. Could you restate the question.

7 Q. Can you agree with me that the MGEM
8 program is not specifically looking at the wildlife
9 species that do not benefit from the application of the
10 moose guidelines?

11 A. To the extent that we do not have any
12 species specific research being conducted by the MGEM
13 program for species other than moose, yes, but not to
14 the extent that the habitat analysis that we are doing
15 will not be applicable to other species.

16 Q. Can you confirm for me in a similar
17 vein, that the MGEM program is not specifically testing
18 the MNR claim that using the moose habitat guidelines
19 takes care of 70 per cent of the other species?

20 A. Yes, we are not. In the MGEM program
21 we are not specifically testing that, but they will be
22 dealt with in those other programs.

23 Q. So if I could summarize it, your
24 program is simply looking at whether or not the moose
25 habitat guidelines work for moose?

1 A. The specific research questions that
2 I outlined are questions pertaining to the effect of
3 the relationship between the moose species, yes, and
4 the habitat collected in different ways.

5 To reiterate one more time, in our
6 approach to it and the change from the original, it is
7 clear that when you identify what the guidelines do to
8 the landscape, to the habitat, you are providing
9 information that is useful in analysis of the effects
10 on other wildlife.

11 Now, the other wildlife program, which
12 you will be hearing something more about in Panel 3,
13 will not be isolated from or non-interacting with the
14 MGEM program.

15 Q. Okay. Thank you.

16 Dr. Steedman, I want to put the same
17 question to you about the aquatic effects program.
18 Have you experienced a reduction in funding?

19 DR. STEEDMAN: A. Yes, I believe we have
20 had in this year a reduction of something in the order
21 of 15 to 20 per cent. Again, mostly in terms of direct
22 operating dollars.

23 Q. Okay. Thank you.

24 Mr. Kennedy, perhaps I can close my
25 cross-examination with you. I want to touch on a

1 number of issues including the environmental
2 guidelines.

3 Now, you did not file the answers to
4 interrogatories that we posed in panel number 3 on
5 those guidelines. We essentially asked where are the
6 guidelines, and if I understand, the answer was they
7 don't exist yet; is that correct?

8 MR. KENNEDY: A. That is correct, an
9 oversight. If I had known you had wanted to use those
10 interrogatories I certainly would have filed them and
11 see you in August or sorry, see you tomorrow actually.
12 I will file them tomorrow, but it is correct that the
13 guidelines are not in existence now. It is a proposal
14 that has been under discussion and there's nothing
15 tangible at the moment.

16 Q. And if I understand your evidence
17 yesterday, it the MNR's intention to develop them after
18 the hearing?

19 A. It is our intention to use some of
20 the staff that are involved in the hearing process. We
21 hope to get underway in, I believe, during the month of
22 October, September, October perhaps, and complete them
23 in 14 to 16 months. In that sense they won't be
24 available during the time that the active portion of
25 the hearing is on as far as you and I are concerned.

1 Q. I take it then that this Board will
2 never see the content of those guidelines?

3 MR. MARTEL: What a relief.

4 MR. KENNEDY: Thank you, Mr. Martel.

5 MR. LINDGREN: Q. And you have indicated
6 in the interrogatory responses that notwithstanding the
7 14 to 18 month time frame that might be required to
8 develop those guidelines, the MNR is not prepared at
9 this time to undertake any interim measures respecting
10 clearcutting concerns or site productivity concerns
11 that will be addressed in the guidelines; is that
12 correct?

13 MR. KENNEDY: A. We will be talking
14 about the further in Panel number 5, but essentially,
15 yes. We see it as the -- actually what we consider to
16 be a short-term time frame, 14 to 16 months to prepare
17 the guideline, but that is not unusual or not
18 unreasonable to await the guidelines which we do
19 anticipate will contain some direction on matters
20 dealing with site productivity.

21 Q. In the interrogatories we asked you
22 for the MNR's preliminary proposals as to the content
23 of the guidelines.

24 Is it correct that at this time you have
25 absolutely no indication what the likely contents or

1 direction or requirements will be in the guidelines?

2 A. I would say that to the extent that
3 our thoughts have been put on paper as to possible
4 content as reflected in the original statement, in
5 answers to interrogatories and the evidence I led this
6 week, and I'd also point out that we are in a difficult
7 situation in that if we were to embark on our own in
8 preparing materials to prejudice the involvement of
9 other individuals that have indicated they feel ought
10 to be involved in the preparation may short-change them
11 of the opportunity.

12 So we have not actively pursued that at
13 this time. So we will be extending offers for
14 individuals to be involved in its preparation.

15 Q. Well, in the interrogatory, the
16 questions we asked whether or not there would be an
17 opportunity for public review and comment and the
18 essence of the answer was that the MNR -- well, we
19 asked this with respect to the creation of new
20 implementation manuals in general, and the MNR response
21 was that you did not see a role for the general public
22 in the creation or revision of implementation manuals.
23 Does that include the new guidelines?

24 A. No, it does not. In terms of the
25 evidence, as I said yesterday, I believe there was

1 reference on one of the overheads to the effect that
2 for the environmental guideline for timber management
3 activities, we do see it's necessary to involve general
4 publics in its development.

5 In the case of implementation manuals, we
6 will be talking tomorrow about the role of the public
7 and the role of how we will get public input into that
8 matter. We don't see it as a routine feature. The
9 general public can look at representation from one of
10 the assessments committees.

11 Q. We also posed an interrogatory on
12 what will be the primary focus or function of the
13 guidelines? Are they going to be used to develop
14 prescriptions or are they going to be used to ensure
15 good practice occurs in the field. The answer we got
16 seemed to indicate you haven't made up your mind what
17 the primary function of the guidelines are going to be.
18 Is that the case?

19 A. Well, Mr. Lindgren, I am sure you
20 were paying attention yesterday when I indicated that
21 this manual would likely take a different form than
22 some we currently have. I would expect it will take
23 the form of having some information that was suitable
24 for those involved in the planning and the prescription
25 setting, and indeed I expect it will also contain

1 information for use of those involved in operations.

2 I believe that is reflected on one of the
3 overheads as well and certainly was reflected in our
4 answer to interrogatory.

5 MR. LINDGREN: Well, Madam Chair, you
6 will see this tomorrow undoubtedly when the
7 interrogatories get filed, but I can indicate for the
8 record that the MNR answer says --

9 MR. FREIDIN: Why don't you file them
10 now?

11 MR. LINDGREN: I have only got one copy.

12 MS. BLASTORAH: We were going to file
13 them in any event tomorrow, Madam Chair. If Mr.
14 Lindgren would like to mark them now and give them an
15 exhibit number we will be happy to provide you copies.
16 We were going to provide tomorrow anyway.

17 MR. LINDGREN: I think that would be a
18 good suggestion, Madam Chair.

19 MS. BLASTORAH: We don't have them here
20 today, but Board may have their copies and we can make
21 additional copies available. I don't have those copies
22 here today because they were going to be marked
23 tomorrow.

24 MR. LINDGREN: Well, Madam Chair, I will
25 just read the one sentence from the interrogatory

1 response.

2 MR. FREIDIN: Which one?

3 MR. LINDGREN: This is the answer to FFT
4 number 3C, which is at page 4 of the interrogatory
5 package, which will be marked later.

6 In any event, the statement is;

7 That the MNR has not made my firm
8 decisions regarding the primary use of
9 the new environmental guidelines and will
10 be addressing that matter during its
11 preparation.

12 Q. That to my mind, Mr. Kennedy, tells
13 me you do not know what its primary focus or function
14 is going to be.

15 MR. KENNEDY: A. Mr. Lindgren, simply
16 that answer was intended to simply convey the fact that
17 we do intend to develop it with a group of experts,
18 this is the environmental guideline we are talking
19 about, with a group of experts, it would be premature
20 for us to say that we have reached a final decision in
21 the content and format of that guideline, and that is
22 why I use, in this response, MNR has not made any firm
23 decisions.

24 We certainly have some suggestions and
25 some proposals, and as I've indicated in the evidence,

1 we do expect it to be a mix.

2 I believe that is the essence of the
3 answer as well, if one was to read the complete answer
4 you will see I made reference to such things as the
5 training materials that would be necessary to prepare
6 for individuals that are directly involved in carrying
7 out timber management activities.

8 Indeed I expect the guideline will take
9 on a dual character; one of information for
10 prescription setting, and one of guidance for those
11 involved in implementation.

12 Q. Well, let me ask you a question on
13 that very issue. I am looking at page 5 of your
14 overheads, which is Exhibit 2264.

15 MR. FREIDIN: Hold on.

16 MS. BLASTORAH: Page 5?

17 MR. LINDGREN: I am looking at page 5,
18 which is entitled Environmental Guideline Site
19 Productivity.

20 Q. I would like to use this as an
21 example, Mr. Kennedy. Under the heading "Nutrient
22 Concerns," you say that;

23 The manual will describe good
24 practices and will advise that certain
25 accommodations of conditions and

1 practices are probably not appropriate.

2 When I read that, it seems to me that it
3 is more analogous to the code of practice for riparian
4 areas in the sense that these will be non-binding
5 directions and there is going to be no sanctions for
6 non-compliance. Is that a fair assessment?

7 MR. KENNEDY: A. Described elsewhere
8 that we consider that this guideline would be mandatory
9 for use in applying operations.

10 I indicated to Madam Chair this morning
11 that I would see that we would include in plants
12 monitoring provisions across this guideline and as such
13 it would be -- both situations then would be the
14 covered, and if one is during planning the guideline
15 will be consulted for prescription setting and during
16 the actual implementation our expectation would be that
17 staff would ensure that the good practices portion of
18 the guideline and advice direction was being followed
19 during implementation.

20 Q. Is it your expectation that the
21 guideline will contain mandatory directions that will
22 have to be followed?

23 A. A small group of us have discussed
24 that. I think it is premature to make that statement,
25 on behalf of MNR. I could say my personal view is that

1 I can see that there would be a mandatory section of
2 the guideline.

3 Q. Just very quickly, Mr. Kennedy. Can
4 I ask you to flip ahead to page 10 of your overheads,
5 and this is your proposal when respect to develop
6 guidance on ranges of clearcut block sizes, and you
7 have indicated you want to do this by eco region,
8 whatever that means, and it is going to be based on
9 natural patch size and distribution.

10 Can you tell me what is the natural patch
11 size, shape and distribution that you are thinking
12 about? What is it for the Great Lake /St. Lawrence
13 Forest and the Boreal Forest?

14 A. You are asking me to provide a list
15 of numbers and describe them by some working group or
16 equal element? I am unable to do that today.

17 I have indicated that it is our intention
18 to use information that is available to us in forest
19 resource inventory information, fire history records,
20 et cetera, and to prepare that information in state
21 that would be suitable for review and use by the group
22 of experts prepare the guideline. We are looking to
23 those individuals to assist in determining those
24 parameters.

25 Q. So are you telling me that at this

1 point in time the MNR does not have a definitive
2 definition of what natural patch size, shape or
3 distribution is?

4 A. I would say that for the purposes of
5 this guideline, no. I am aware that we have many staff
6 working on the new emerging science of landscape
7 management. We have people actively pursuing that. We
8 have individuals who are concerned in the merging area
9 of biodiversity that need to be aware of that.

10 Both of those subject areas are ones in
11 which we intend to involve experts from those fields in
12 development of the guideline. I fear today I do not
13 have the working definition for you of patch size. I
14 would not be surprised if there are members in our
15 midst that have that information that is used in other
16 jurisdictions, as MNR is just moving into that field we
17 do not have any working definitions that I'm aware of.

18 Q. Okay. Thank you, Mr. Kennedy.

19 Let me conclude by asking you a question
20 or two on monitoring. Based on your discussion this
21 morning, am I correct in assuming that under the MNR
22 terms and conditions there will be no provision for
23 local effects effectiveness monitoring at the unit
24 level?

25 A. As I understand the proposal, some

1 parties, it would be fair to say, that we have not put
2 in place a proposal that deals with a routine effects
3 effectiveness monitoring program.

4 You will recognize from this morning,
5 from some of the interchangeover, if the Board is to
6 put, would constitute effects monitoring and
7 effectiveness monitoring and how our plants monitoring
8 program with the addition of the recording of observed
9 and desirable effects might be a proxy, if you will,
10 for effects monitoring, and I think in some people's
11 mind that goes along way to recording observed
12 conditions which could be described by some as effects,
13 and those that are related to timber management. But
14 in terms of a routine program, no we have not proposed
15 such a plan.

16 Q. Are you aware that local effects
17 effectiveness monitoring is required under the U.S.
18 Forest Service Planning Procedures?

19 A. I have some knowledge of it, but it
20 is very limited.

21 Q. Given your knowledge, are you in a
22 position to confirm that in fact local effect,
23 effectiveness monitoring, is required in national
24 forests?

25 A. Yes, to the best of my knowledge.

1 Q. And then finally, Mr. Kennedy, this
2 morning --

3 MR. MARTEL: I raised this matter this
4 morning in reference to Dr. Ward Thomas's evidence. He
5 said he didn't know how to do it, I thought. I am not
6 sure if my memory is failing me, but after all these
7 years it could be possible.

8 But does anyone really know, and that is
9 question I tried to raise this morning about effects
10 effectiveness monitoring, because I am trying to get
11 into my own head and maybe I didn't word it properly
12 this morning, and I said are we all working from the
13 same deck or the same definition or terminology,
14 because I did not get that from Dr. Thomas, and I am
15 hearing Mr. Kennedy answering Mr. Lindgren and every
16 time the subject is broached, I get a little more
17 confused as to what really is going on in the real
18 world. I need somebody to explain it to me.

19 MR. LINDGREN: Well, Mr. Martel, I find
20 myself in agreement with Mr. Kennedy's conceptual
21 description of the differences between compliance
22 monitoring and effect effectiveness monitoring. I
23 think we are dealing from the same -- I don't know if
24 it is concepts.

25 I think in final argument you will hear

1 from some of the parties, namely FFT, that in fact
2 local effect effectiveness monitoring has been carried
3 out in the U.S. national forest for a number of years.
4 I think there is evidence on that from Mr. Smith.

5 As well, I think we introduced evidence
6 on that issue by way of cross-examination on the MNR
7 Panel 17, and in fact I put in the monitoring excerpts
8 from the actual plan. So I think the short answer is
9 it can be done and is being done, although certainly
10 more could be done at the local level.

11 MR. MARTEL: Well, I raise it again then.
12 Is my recollection of what Dr. Thomas said wrong?

13 MR. LINDGREN: I can't remember what Dr.
14 Thomas said. I will have to check the transcript.

15 MR. MARTEL: Maybe Mr. Kennedy could help
16 me. Does anyone on the panel recall what Dr. Thomas
17 said, because obviously I have not got it down
18 straight.

19 MR. KENNEDY: Mr. Martel, given the
20 discussions that has gone on I would not venture a view
21 today.

22 MADAM CHAIR: Are you finished, Mr.
23 Lindgren?

24 MR. LINDGREN: I did have the one
25 question that I did have to conclude with.

1 Q. In the context of monitoring, Mr.
2 Kennedy, we heard some discussion of pre-operation
3 inspections.

4 I guess I have a two parter. The first
5 question is, the first part, can you confirm for me
6 that under the MNR's proposed terms and conditions, it
7 is not mandatory to do a pre-operation inspection in
8 areas of normal operations or even in areas of concern?

9 MR. KENNEDY: A. I will confirm with you
10 that it is not mandatory to conduct pre-operation
11 inspections of all the sites. I would also go on to
12 say the very way in which we structured our terms and
13 conditions in our planning process and such matters as
14 the collection and assembly analysis and that kind of
15 information. All of the work that goes on to that, and
16 summarizing it prior to plan production and the
17 continued efforts that occur throughout planning
18 implementation, both of the areas that are under
19 operations, and those areas that are up to the next
20 planning cycle, which involved everything from keeping
21 of course resource inventory up-to-date, to conducting
22 moose surveys, to conducting habitat inventories, to
23 collecting information on where we threatened
24 endangered species and a host of other items.

25 Indeed I think we have a wealth of

1 information that are available to our staff for use in
2 both planning and in conducting operations.

3 But I would agree with you that we do not
4 have in place what has been described as a mandatory
5 pre-operation inspection.

6 Q. The second and final part of my
7 question is this; can you confirm for me that
8 pre-operation inspections are in fact required in other
9 jurisdictions in North America?

10 A. I am aware that some jurisdictions
11 require pre-operation inspections for such things as
12 silvicultural planning, and I believe that some of
13 those jurisdictions may also require them for the
14 equivalent of our areas of concern and planning
15 process, yes.

16 MR. LINDGREN: Thank you, Mr. Kennedy,
17 and thank you, panel. Madam Chair, Mr. Martel, those
18 are our questions.

19 MADAM CHAIR: Thank you very much, Mr.
20 Lindgren. Shall we take a break and then come back and
21 hear your cross-examination, Ms. Gillespie?

22 MS. GILLESPIE: That would be fine, Madam
23 Chair.

24 ---Recess at 2:45 p.m.

25 ---On resuming at 3:05 p.m.

1 MS. BLASTORAH: I am sorry, Madam Chair,
2 I seemed to have lost Mr. Freidin between here and the
3 corner, but I think we can proceed. I expect him
4 momentarily.

5 MADAM CHAIR: Go ahead, Ms. Gillespie.

6 MS. GILLESPIE: Thank you, Madam Chair.

7 CROSS-EXAMINATION BY MS. GILLESPIE:

8 Q. Mr. Kennedy, I just have a couple of
9 questions for you arising out Mr. Lindgren's final
10 questions dealing with the environmental guideline.

11 I wanted to ask you whether it is MNR's
12 intention that the environmental guidelines will
13 address the concerns that have been raised by MOE
14 witnesses regarding the removal of nutrient bearing
15 material on sensitive sites?

16 MR. KENNEDY: A. Mr. Green will be
17 discussing further in panel number 5 the work that we
18 are undertaking in the long-term site productivity
19 study, and as part of that study there is a provision
20 to produce an interim direction, that has been
21 indicated in our witness statement.

22 We have also indicated in the witness
23 statement that it is our intention now to first of all
24 produce in detail a report that describes good and bad
25 practices on sites of that nature where the concern is

1 potentially there, and I have indicated in the witness
2 statement that at this point it is our intention to
3 summarize that information and include it in the
4 environmental guideline as the best information
5 available on that topic for use in planning and
6 operations.

7 Q. So that I understand your answer, you
8 do intend the environmental guidelines to deal with
9 that particular issue of the removal of nutrient
10 bearing material on sensitive sites?

11 A. Yes, we do expect to see that topic
12 covered.

13 Q. And I was also a little confused
14 about this interim direction. I understood yesterday
15 in your evidence that you indicated there would be some
16 kind of an interim direction dealing with that topic,
17 and then I thought you answered Mr. Lindgren today that
18 there would not be interim measures pending the
19 guidelines. Could you just clarify that, please.

20 A. I took Mr. Lindgren's question --
21 perhaps I was wrong when I took Mr. Lindgren's question
22 to mean is MNR prepared to do something virtually
23 today, tomorrow, and put in place direction, and the
24 answer to that is no.

25 However, what I have indicated to you

1 just now is that an attempt to do so, to Mr. Lindgren,
2 it is our intention to include that in the guideline
3 and hopefully have that available in the finished form
4 for use in operations in 14 to 16 months.

5 Q. I see. So that there will be no
6 interim measures between now and when the guidelines
7 are ready?

8 A. At this time I do not anticipate that
9 there would be. The timing of the work going on in
10 Thunder Bay and the preparation guideline I think will
11 coincide and will result in direction being given in 14
12 to 16 month's time.

13 Q. Okay, and just to clarify for the
14 record, I did make a note yesterday that you estimated
15 14 to 16 months for the guideline, but I think today
16 you -- I am just advised it was 12 to 14 yesterday and
17 I think I heard 16 to 18 today. So can we have your
18 definitive estimate on that?

19 A. If I have left a variety of estimates
20 as to when that guideline will be produced, I will now
21 conclude those by saying in Exhibit 2264, on page 3 at
22 the bottom, we are indicating that we expect the
23 guideline to take a 14 to 16 month preparation time.

24 Q. And, Mr. McNicol, I had a couple of
25 questions regarding the application of the moose

(Reply Evidence)
cr ex (Gillespie)

1 guidelines and I believe - you do not need to turn to
2 this - in your interrogatory answers which are Exhibit
3 2259, question 5, page 7, there is a sentence referring
4 to --

5 MR. FREIDIN: I am sorry, what
6 interrogatory was that?

7 MS. GILLESPIE: Interrogatory 5, page 7.

8 Q. In the first paragraph there is a
9 sentence which reads, "in areas where the moose
10 production capability is medium to high, the guidelines
11 are applied rigorously (80 to 130 hectares clearcut) to
12 produce the type of habitat conducive to supporting
13 high numbers of moose." I believe that you gave
14 evidence to the same effect yesterday, and I just
15 wanted to ask you whether the numbers which are shown
16 in your overhead 2264, I believe... On page 2 you show
17 moderate and high capability 1 to 130 hectares at 69
18 per cent of the clearcuts, and I wanted to ask you
19 whether it is your view that that is a rigorous
20 application of a 130 hectare guideline?

21 MR. McNICOL: A. Given that those are
22 the optimal sizes in this guideline, the 80 to 130
23 hectares, and given that there are other situations in
24 the forest that would dictate allowing for larger cuts,
25 for instance the condition of the forest, the spruce

1 bud worm salvage area, for instance, in an area of
2 moderate to high capability. Given that there are
3 other conditions in the forest that must be taken into
4 account, I would suggest that, yes, this is high
5 compliance with respect to the kind of guidance that is
6 being given in the guideline.

7 Q. Okay, so that when MNR uses terms
8 like rigorous application of an 80 to 130 hectare
9 guideline, 69 per cent compliance in your view is a
10 rigorous compliance figure?

11 A. I think that is what I have said,
12 yes.

13 Q. Mr. Kennedy, a couple of questions
14 about your area inspection reports. We heard from you
15 that you have added an observed undesirable condition
16 element to the area inspection report and I understood
17 you to say that this information would be useful for
18 adjusting strategies in your future planning; is that
19 correct?

20 MR. KENNEDY: A. Yes, it is.

21 Q. And I just wondered whether it
22 wouldn't also be useful to record desirable conditions
23 which may be observed as well?

24 A. I am aware of that suggestion being
25 made in the past, most of our staff that we consulted

1 with in the field and those involved in the preparation
2 of evidence felt that, to be quite honest, that the
3 instances of that would be so numerous that it would be
4 an intrudence with the report.

5 Q. Isn't it useful if you are trying to
6 adjust your future strategies that you would be
7 recording unexpected positive results as well as
8 negative results, Mr. Kennedy?

9 A. Yes, I could see the benefit of
10 reporting unexpected positive results, certainly
11 proposed in the past, described as reporting desirable
12 conditions.

13 I don't think that -- I would have some
14 trouble. I would have to think further on it, would it
15 be appropriate to put in place as a routine reporting
16 requirement into what purpose it would be put. It
17 would be worthy of a discussion.

18 Q. Well, you might try to repeat the
19 results. That would be one of the purposes of
20 collecting the information.

21 DR. ABRAHAM: A. Could I just add, that
22 the same goes for desirable or apparently desirable
23 conditions as it does for undesirable ones. You still
24 don't know that it is something that you did that
25 specifically caused it. It is worth noting if it is

1 unexpected and it seems positive, but you are no closer
2 in that situation than you are for an undesirable
3 effect.

4 Q. Dr. Steedman, I noted from your
5 evidence concerning the fishing guidelines, you
6 describe them as conservative and commented that if you
7 do not know too much about something you should use a
8 fairly conservative approach.

9 I take it you would agree as a general
10 principle that where there is controversy or
11 uncertainty concerning potential serious effects of an
12 activity, that a conservative approach should be used?

13 DR. STEEDMAN: A. You were referring to
14 the sustainable management guidelines for the
15 protection of fish habitat. I am not sure I can
16 comment much beyond the application of the fish habitat
17 guidelines because the kind of information that might
18 lead you to choose a very conservative application is
19 likely somewhat specific to that, and in the case of
20 the fish habitat guidelines, the most conservative
21 application is there to protect what we understand to
22 be the most sensitive kind of fish habitat, and that is
23 generally lakes or streams that supports cold water
24 fisheries, such as lake trout and brook trout or aurora
25 trout. I am not really sure if it would be too helpful

1 for me to comment much beyond that.

2 Q. But aren't you comfortable commenting
3 as a scientist, as a general principal, that a
4 conservative approach in the face of controversy or
5 uncertainty makes sense?

6 A. Yes, but I would refer -- I would
7 understand that almost in terms of a design strategy,
8 such as an engineer would not intentionally court
9 disaster or design a structure that would be close to
10 what he understood to be the limit of failure. And so
11 to me prudent thing seems to be to use the information
12 that you have available to identify the realm of
13 danger, in this case of fish habitat guideline, the
14 realm of danger would refer to the likelihood of
15 sedimentation or adverse temperature effects or some
16 other effect like that and then to stay away from it.

17 Q. So I take it that you are agreeing
18 that it is really a risk management decision, I guess,
19 to use a conservative approach in the face of uncertain
20 and potentially serious results?

21 A. And of course you have to examine the
22 consequences of a failure. If it's an aurora trout
23 lake and you guessed wrong, as far as I'm concerned
24 that is a very serious failure, or if it is a lake
25 trout lake and you guess wrong and you lose lake trout

1 population there is no way to get that back. So in
2 that case it seemed quite prudent to stay away from any
3 risk which you are able to identify.

4 Q. And I take it you would also agree
5 that if there is enough controversy to think that
6 undertaking an expensive and rigorous long-term study
7 is warranted, that caution should be used in the
8 meantime while you are waiting the results of this
9 study?

10 A. And in particular the case would be
11 application of fish habitat guidelines. I believe that
12 is what we are doing now.

13 Q. That principal would apply to other
14 situations as well?

15 A. As I said before, that would depend
16 on the situation.

17 I think you would have to bring the
18 specific kind of information that are relevant to the
19 assessment of risk or the consequences of failure and
20 use that information before you would make a decision
21 like that.

22 MS. GILLESPIE: Those are all my
23 questions, Madam Chair.

24 MADAM CHAIR: Thank you, Ms. Gillespie.
25 Mr. Freidin, will you be re-examining?

1 MR. FREIDIN: I just have one question
2 if I could have one moment.

3 RE-DIRECT EXAMINATION BY MR. FREIDIN:

4 Q. Mr. McNicol, you indicated to Mr.
5 Lindgren that you used different criteria in
6 determining clearcut sizes for the purposes of your
7 evidence in this panel, different criteria than those
8 used for the clearcut exercise, MNR Panel 10B.

9 Can you briefly describe why different
10 criteria were employed.

11 MR. McNICOL: A. The 10B exercise, as
12 those that were involved with it understand, took a lot
13 of time. It was a very labour intensive exercise.

14 We compiled this information in response
15 to Board interrogatory in which there was a very quick
16 turn around time, so that was certainly one reason.

17 The other reason that we took the
18 approach that we did, I would suggest, with respect to
19 discounting residual, as not only is it more labour
20 intensive to try to ascertain how much residual you
21 have in which category within a cutover boundary, but
22 also we thought perhaps we might be criticized for
23 trying to sway the results in favour of smaller
24 clearcut areas.

25 So in that context, both from the time

1 saving element and from the element of trying to get as
2 fair a picture with respect to the Board's question as
3 possible, we took the approach that we did.

4 Q. The blocks that were examined for the
5 purpose of panel reply witness, were all of those
6 areas, those blocks, were all of them cut blocks? Had
7 they all been cut or were some of them planned cuts?

8 A. I understand. They were '91 approved
9 plans. The plans would have run from '91 then until
10 1996. So some of the cuts, you are quite right, and I
11 am sorry, I missed the point, were not actually cut
12 yet. They were planned cuts, so it would not -- in
13 those instances where we were to, for instance, try to
14 apply criteria for residual, it would have been
15 impossible except for those cuts that had actually
16 implemented at that point in time.

17 Q. Mr. Waito, you had a discussion about
18 road costs with Mr. Lindgren. You had three categories
19 of cost that you discussed; road construction costs,
20 road maintenance costs and road reconstruction costs.
21 I think you agreed with him that the cost of road
22 construction would be similar in the FFT versus present
23 practice scenarios, although the time of the
24 expenditure might be different.

25 What is your opinion regarding the

1 comparison between the two scenarios, FFT scenarios and
2 present practice, regarding road maintenance and road
3 reconstruction costs. Are they the same or are they
4 different?

5 MR. WAITO: A. My opinion is that the
6 potential is there in the FFT scenario to have higher
7 maintenance, and in particular higher reconstruction
8 costs.

9 I made that comment thinking about the
10 what the return time might be to harvest the strip. In
11 our report we assumed a 10 year return period. The
12 return period in reality may be 15 years, it may be 20
13 years. It will depend on what the objectives that the
14 manager is trying achieve.

15 In the case of a fairly lengthy return
16 period, and we had some discussion about this in
17 committee, and in particular in the clay belt, if a
18 road is left for 10 or 15 years, in fact in
19 reconstructing that road up to a standard where now you
20 can use it for the return cut, it may cost you as much
21 as what it originally cost you to construct the road in
22 terms of the graveling and road base, and that was
23 based on some discussions that we had in committee and
24 some feedback that we had gotten from some of the
25 company people when we were talking about -- when we

1 are trying to rationalize, come to some agreement on
2 what we could cost out in terms of maintenance and
3 reconstruction.

4 So I think in general, I hate to
5 generalize, but in general I think because of the
6 longer period of time that roads would have to be
7 maintained and potential for fairly significant
8 reconstruction costs, depending on where the road was
9 originally constructed, the potential is there to have,
10 I think, higher road maintenance and reconstruction
11 costs, in the case of the FFT alternative.

12 Q. In exhibit 2271, which is the
13 correspondence between yourself and Mr. Benson, both
14 letters are dated February the 3rd, 1992. In the very
15 first line of your letter it says, "I received your
16 February 3rd fax and have the following comments." Can
17 we assume that the letter of February the 3rd, 1992,
18 from Mr. Benson to you, which is part of this exhibit,
19 is in fact the fax referred to?

20 A. That is correct. We did a fair bit
21 of our communication via fax.

22 Q. Thank you.

23 During your evidence in relation to that
24 particular exhibit, Exhibit 2271, and some discussion
25 about the first page, you indicated that Mr. Squires,

1 in his response, disagreed with Mr. Benson regarding
2 this issue about whether the extent of natural
3 regeneration that you could obtain on the Spruce River
4 Forest.

5 When you refer to Mr. Squires' response,
6 what were you referring to?

7 A. Well, Mr. Benson sent his letter out
8 on February 3rd to myself as well as Mr. Bax and Mr.
9 Squires, and all three of us responded the same day to
10 his comments. And what I was referring to was a copy
11 of a response by Mr. Squires to Mr. Benson on a number
12 of the points that were raised by Crandal in his
13 letter, and it was I guess the February 4th fax that
14 Mr. Squires had sent to Crandal, and I was referring to
15 a comment that Mr. Squires made in his response to Mr.
16 Benson about that particular point, about ease of
17 getting regeneration of Spruce on the Spruce River
18 Forest.

19 Q. I just wanted to clarify that the
20 response that you were referring to is not the response
21 in the committee report, but the separate letter that
22 you have just referred to; is that correct?

23 A. That is correct.

24 Q. Thank you.

25 Mr. Callaghan, when you did your analysis

1 that showed the conifer versus hardwood growing stock
2 on the three northern regions, did you use the FORMAN
3 model?

4 MR. CALLAGHAN: A. No, I used a simpler
5 analytical approach just using dollars, areas and yield
6 factors.

7 Q. Thank you.

8 MR. FREIDIN: Those are my questions.
9 Thank you.

10 MADAM CHAIR: Thank you very much, Mr.
11 Freidin. I think we are on schedule.

12 We will start Panel 3 tomorrow morning at
13 8:30, and the Board thanks you very much gentlemen.

14 For those of you we will not see again,
15 thank you very much for all your hard work.

16 ---Panel withdraws.

17 ---Whereupon the hearing was adjourned at 3:30 p.m., to
18 be reconvened on Wednesday, June 24, 1992 at 8:30
8:30 a.m.

19 I hereby certify the foregoing to be
20 a true and accurate C.A.T.
21 (Computer-Aided Transcription) record
22 of the proceedings, to the best of my
23 skill and ability.

24 *for:* Carla Miller
25 Carla Miller, C.S.R.
Special Examiner, Q.B.

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